IEPC 19

36th International Electric Propulsion Conference
Vienna

ENPULSION

Programme

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Content

The IEPC is the premier international forum for spacecraft primes, hardware developers, government researchers, academic scholars, and students in the field of electric propulsion.

The programme contains more than 500 technical presentations which cover propulsion device physics and development to on-orbit operation and satellite fleet management. The 2019 IEPC has a rich and diverse technical programme featuring the latest developments and research results in the field, as well as a number of informative and educational events along with technical visits to nearby facilities.

Contact

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IEPC[19]

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Science Communications
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Matthias Nowak

Welcome to the Era of Electric Propulsion

In space, everything is moving fast.

Dr. Alexander Reissner
General Chair of IEPC 2019

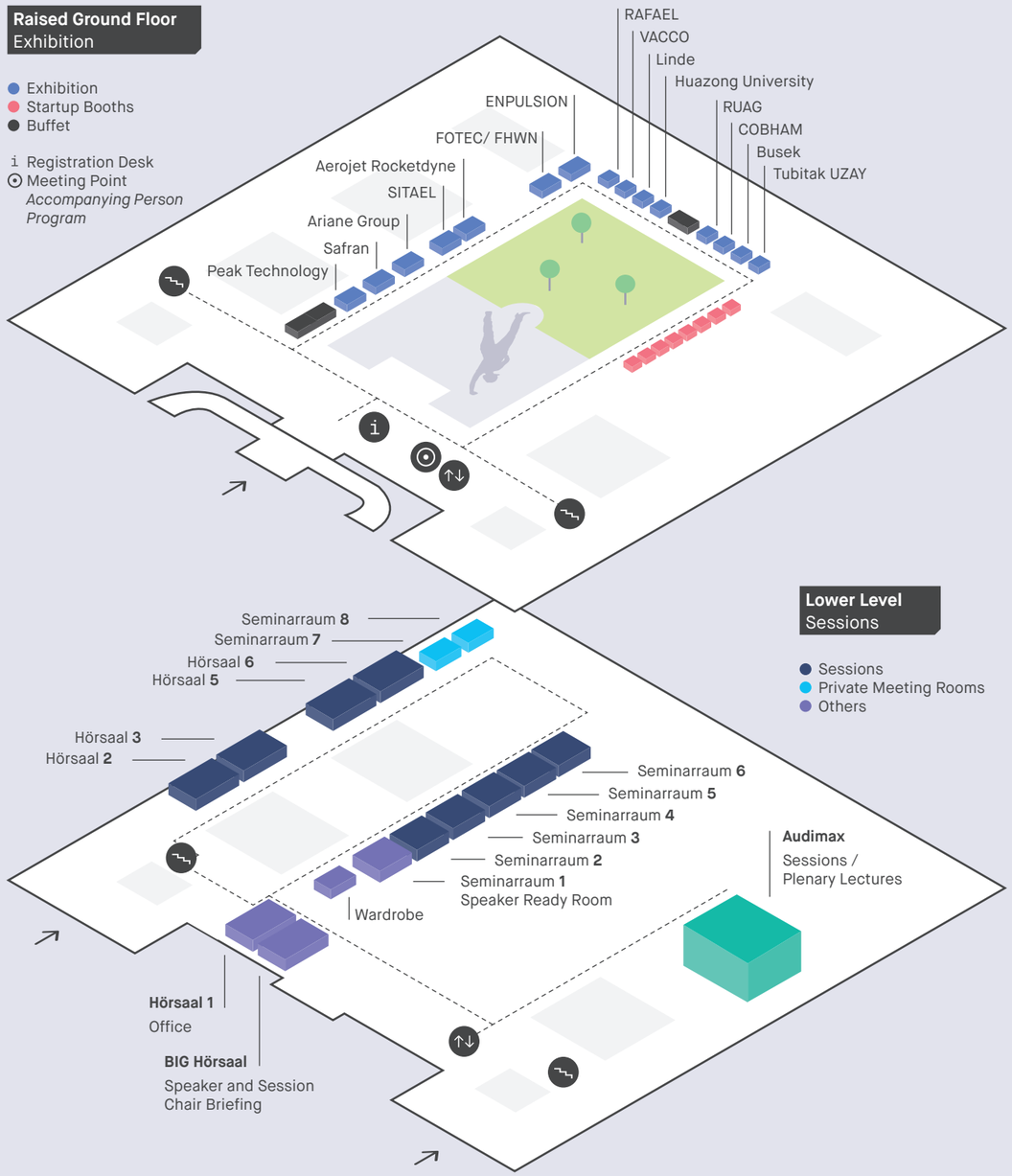
Any object floating around the earth travels at least 7 kilometers per second. So naturally, mastering in-space mobility is key to the success of every space endeavor, be it the installation of space-based infrastructure for the benefit of earth or the exploration of our solar system. The possibility to move one's assets from one place to another, deploy constellations, remove dysfunctional elements and avoid collisions, autonomously and on short notice, is an enabling factor in unlocking the vast potential space has to offer. I believe that the rapid developments of space-infrastructure we see today are just the beginning of a thriving near-earth economy, enabled by effective in-space mobility solutions.

Today, we are entering an era in which electric propulsion is becoming the dominant choice for such in-space mobility across all applications and it is up to us to define how this era will look. Will we be able to protect economic interests in a world of commercial competition, without sacrificing an open exchange about technological advancements? Will we be able to combine the best of both scientific excellence and industrial capabilities and create robust business models without sacrificing the academic freedom to explore new frontiers?

I believe we will, because in the last 25 years, with the careful guidance of the ERPS, our community has grown into a global family that is based on respect and trust for each other. I believe that this community can handle competition without losing this trust and respect and that it can play a defining role in the new space era without losing its identity.

In a time when everything is moving at breakneck speed, it is our communities and relationships that matter more than ever, and it is up to us, here at the IEPC 2019, to strengthen these relationships. The way we define our community today will shape how the era of electric propulsion will look in the years to come. So let's get to it. And enjoy!

	Monday 16	Tuesday 17	Wednesday 18	Thursday 19	Friday 20
08:00	**Speaker/Chair Briefing** BIG Hörsaal	**Speaker/Chair Briefing** BIG Hörsaal	**Speaker/Chair Briefing** BIG Hörsaal	**Speaker/Chair Briefing** BIG Hörsaal	**Speaker/Chair Briefing** BIG Hörsaal
09:00	**Plenary Lecture** Welcoming / David C. Byers Memorial Lecture	**Parallel Sessions**	**Parallel Sessions**	**Parallel Sessions**	**Parallel Sessions**
10:00	**Plenary Lecture** EP as Enabler for Future Science and Exploration				
11:00	**Panel Discussion** EP in the Commercial Space Area	**Conference Tour** Melk Abbey & Boat Trip on the Danube River			
11:30					**Tour Briefing** Audimax
12:00			**Lunch** Arkadenhof	**Lunch / Poster Session** Arkadenhof	**Snack / Lunch** Arkadenhof
12:30	**Lunch / Poster Session** Arkadenhof				
13:00				**ERPS Meeting** Audimax	**Technical Visits** with visit to a typical Austrian Tavern
13:30			**Plenary Lecture** The Role of EP in LEO		
14:00	**Parallel Sessions** Coffee & Refreshments		**Parallel Sessions** Coffee & Refreshments	**Plenary Lecture** BepiColombo – The Mission	
15:00				**Parallel Sessions** Coffee & Refreshments	
16:00					
17:00					
18:00			**Gala Dinner** Townhall		
19:00					
20:00					
21:00					



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SPACECRAFT TECHNOLOGY

is proud to support the 36th International Electric Propulsion Conference in Vienna!

We offer state-of-the-art electric propulsion solutions for small and medium satellites with our IFM Nano and IFM Micro ranges based on the proprietary FEEP technology.

OUR SOLUTIONS ARE:

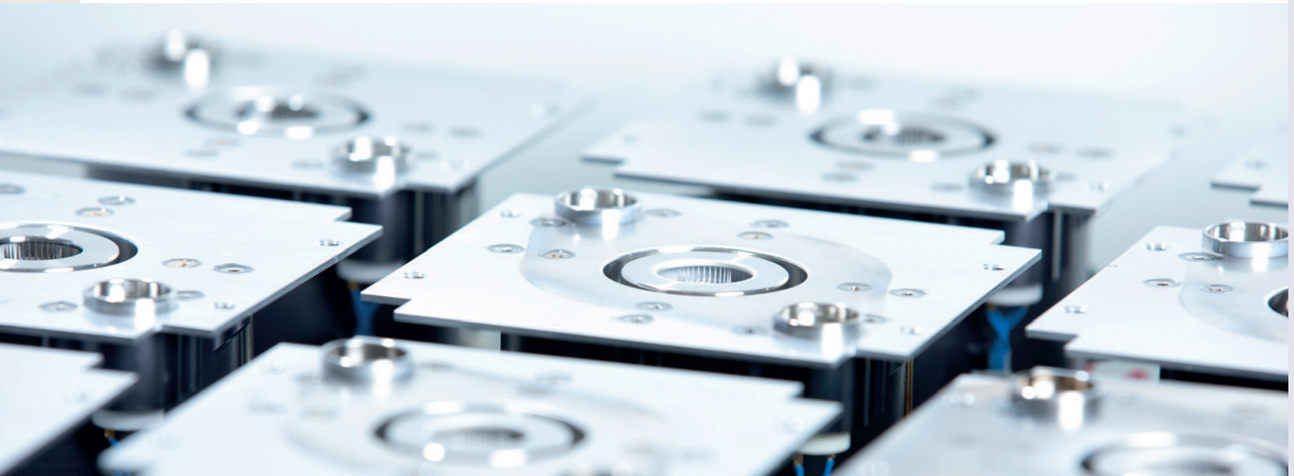
SPACE-PROVEN - 25 thrusters already flying in orbit and another 65 delivered to customers (as of August 2019).

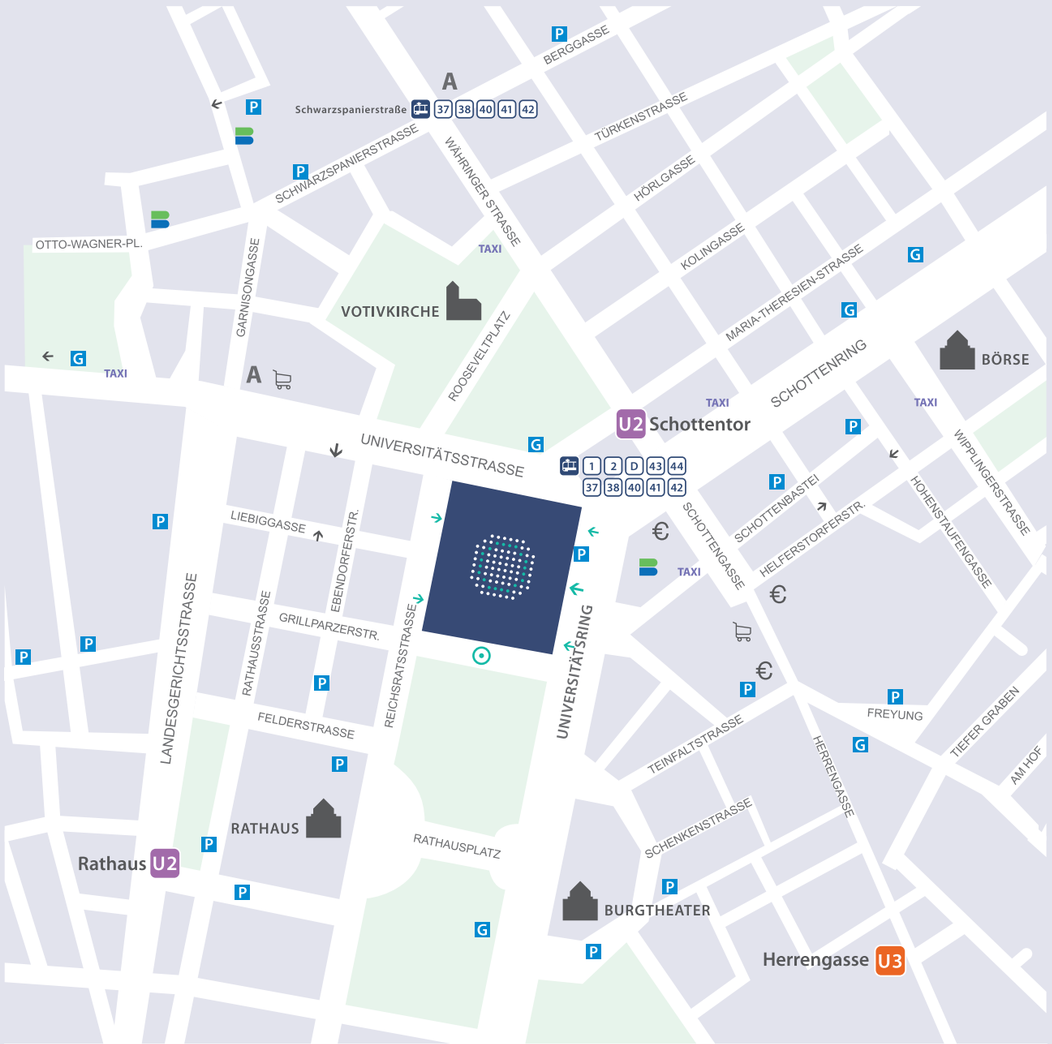
TESTED - we follow rigorous test procedures for thermal resistance, vibration, and performance performed by highly qualified aerospace engineers and technicians in our modern facilities in Wiener Neustadt, Austria.

SAFE AND EASY TO HANDLE - IFM emitters use indium, a non-toxic, non-reactive and non-radioactive as propellant. As the propellant is pre-loaded and in solid state during launch, there is no need for pressurized tanks and pre-launch loading procedures.

MODULAR - our thrusters are engineered in a modularity approach, with units clustering easily together to form building blocks that can be arranged for various mission profiles

SCALABLE - we have implemented a lean manufacturing process, designed for high rate production while meeting the demands of space product assurance standards.





Registration for tours and events is possible within the registration process. During the conference, ask at the registration desk if space is available.

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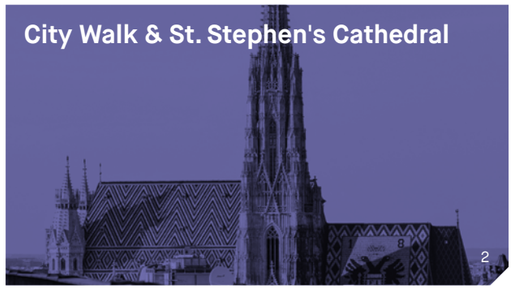
Sunday 15th / 18:00 – 22:00
Arcarded Courtyard / University of Vienna
Free for attendees
accompanying persons: €50,00

Enjoy the get together before the conference in the historic surroundings of the University's Arkadenhof/Arcaded Courtyard. (If the weather is rainy and unpleasant, then the reception will be in the Main Ceremoinial Chamber).



Monday 16th / 09:00 – 12:00
Starting & End Point: University of Vienna
Price: €35,00

Explore the old town of Vienna with historic buildings and monuments with the occasional contrast of a few new buildings. Enjoy St. Stephen's wonderful interior with all its fascinating architectural details. At a height of 136.4 metres, St. Stephen's South Tower is an architectural masterpiece of the late Middle Ages. (This program requires good walking shoes and the stamina to walk and stand 3 hours. It involves many stairs as well.)

Tuesday 17th / 11:00 – 22:00
Starting & End Point: University of Vienna
Free for attendees
students & accompanying persons €120,00

Melk Abbey is one of the biggest and most beautiful European Baroque ensembles. Its splendid architecture is famous worldwide and part of UNESCO's world cultural heritage. The Baroque building situated on a cliff overlooking the Danube, in the Wachau region, ranks as one of Austria's most visited art-historical sites. Enjoy the dinner cruise on the "MS Admiral Tegetthoff" on the way back to Vienna.

Trip to Melk Abbey is available only for conference attendees. Ask at the on-site registration desk if places for accompanying persons might be available.

Wednesday 18th / 09:30 – 12:30
Starting & End Point: University of Vienna
Price: €45,00

The morning exercise of the Spanish Riding School offers an insight into the training of the riders and their Lipizzaners. The morning exercise includes relaxation exercises, the refining and perfecting of lessons and the targeted strengthening of muscles. The Imperial Palace was the residence of the Habsburgs for over 600 years and thus the centre of the Holy Roman Empire. Apart from its function as the seat of government and administrative centre, the "Vienna Hofburg" was also the winter residence of the imperial family.

Thursday 19th / 09:00 – 17:00
Starting & End Point: University of Vienna
Price: €130,00

Experience Vienna by bus and then explore Schönbrunn Palace (on foot) on the "Selected Highlights Tour". Enjoy your lunch (beverages are not included) at the Schönbrunner Stöckl restaurant in an imperial ambiance. A tour highlight is the breath-taking view of the city from the Giant Ferris Wheel (Note: this particular stop might not be good for people with acrophobia).

Wednesday 18th / 18:00 – 23:00
Town Hall Vienna, Rathausplatz 1, 1010
Free for attendees
accompanying persons: €100,00

The IEPC 2019 Award Ceremony in the ambiance of Vienna City Hall's breath-taking ballroom as well as an impressive dance performance will guarantee an unforgettable evening in the heart of the city.

HOT HEAD MUSIC CLUB
ELIAS MUSIC production & entertainment

Friday 20th / 13:00 – 21:00
Starting & End Point: University of Vienna
Free of charge for all

Technopol Wiener Neustadt focuses on technology and research aiming to establish Lower Austria as an innovative high-tech location in Europe. The goal is to connect R&D institutions with high-tech companies and academic education and training institutions.

Visited companies

FOTEC Research Subsidiary of the Wiener Neustadt
FACHHOCHSCHULE WIENER NEUSTADT Austrian Network for Higher Education
ENPULSION
Together ahead. RUAG
DONAU UNIVERSITÄT KREMS
AAC aerospace & advanced composites
CEST
AC2T research

David C. Byers Memorial Lecture

Monday 16th / 09:00 / Audimax
Moderator Roger Myers
Presenters Frank Curran / Mike Patterson

In memory of David C. Byers' tremendous impact on the application of electric propulsion, the Electric Rocket Propulsion Society has initiated the David C. Byers Memorial Lecture, or "Byers Lecture", to be given at a plenary session of each International Electric Propulsion Conference (IEPC) starting in 2019. The inaugural Byers Lecture will celebrate Dave's life and accomplishments and will be given by a collection of presenters selected for their knowledge of Dave's immense contributions toward the application of EP. Following an introduction by Roger Myers, Frank Curran and Mike Patterson will review Dave's approach to overcoming the many challenges and resistance to the "new" electric propulsion technology through examples from Dave's long career at NASA and his support of our EP community.

Electric Propulsion in the Commercial Space Era

Plenary Lecture with Industry

Monday 16th / 11:00 / Audimax
Moderator Alexander Reissner

How is the rise of commercial space affecting the economics of electric propulsion? What are the expectations of both satellite integrators and operators? How do Heritage Space Customers and New Space Customers see the implementation of industrial processes into electric propulsion manufacturing? What does the emergence of commercially driven business models mean? How do these developments fit with the needs and timelines of scientific missions? Those questions will be discussed amongst representatives from all relevant stakeholders of the changing environment in which electric propulsion is already bound to play a key role in the future.

Electric Propulsion as Enabler for Future Science and Exploration

Plenary Lecture with Agencies

Monday 16th / 10:00 / Audimax
Moderator Carsten Scharlemann

Representatives from NASA, ESA and JAXA will discuss how electric propulsion is enabling scientific discoveries and exploration in the 21st century. They will present ongoing and planned missions using electric propulsion, as well as major development programs in their respective parts of the world.

The Role of Electric Propulsion in LEO

Panel Discussion

Wednesday 18th / 13:30 / Audimax
Moderators Rafael Spears / Mitchell Walker
Presenters Anton Olshanskii, Alexander Reissner, Albertoni Riccardo, Umair Siddiqui

The announcement of LEO satellite constellations supported by significant industrial and private investors has redefined the satellite communication market. The success of many of the constellation operator financial models hinges on the availability of low-cost, moderate performance, high-volume electric propulsion technology. Electric propulsion start-up companies with university lineage have appeared to meet the new demand. These start-up companies, backed by impressive venture capital investments, join a competitive electric propulsion supplier community. Long before the satellite constellations are successfully demonstrated, constellations operators must make important decisions with respect to the ability of these companies to become sustainable propulsion suppliers. The goal of the panel discussion is to ask the questions that will distill the necessary conditions for the long-term viability of the new entrants to the electric propulsion supplier market. The panel is composed of technical leaders of the new EP companies. The questions and participant selection aim to generate a healthy and meaningful debate with respect to the present and future role of EP for small satellites. The panel is of interest to the EP community and space investment community because it will provide fascinating insights into the unique dynamics of the LEO supply chain.

BepiColombo – The Mission

Plenary Lecture

Thursday 19th / 14:00 / Audimax
Presenter Neil Wallace

The development and qualification of the Electric Propulsion system (EP) for the BepiColombo mission formally commenced in 2008 with the negotiation and award of the EP development contract. In real terms however it started in 1998 with the first designs, prototyping and testing of the 22cm diameter T6 thruster by QinetiQ, in their new Electric Propulsion (EP) laboratory based in Farnborough, UK. Half a career later, BepiColombo was launched from Kourou on an Ariane 5 in October 2018 and the EP system successfully commissioned shortly before Christmas. Now fully operational, the system is in the first phases of its 7 year mission to transfer the spacecraft to the planet Mercury. This presentation attempts to provide a non-technical insight into some of the highs and lows of the development team during the programme, memorable moments and achievements and to serve as an introduction to the subsequent technical papers of the session.

Best Poster Award for 2019 conference

The International Electric Propulsion Conference Best Poster Award (BPA) is an Electric Rocket Propulsion Society (ERPS)-sponsored award that will be presented at each International Electric Propulsion Conference (IEPC). The BPA is intended to recognize the best current research in the field of EP and, for this, participants will display a visual representation (poster) of their research findings at the Poster Session to be held on Monday 16th from 12:30 to 14:00 and Thursday 19th from 12:00 to 14:00.

Best Paper for 2017

The Best Paper Award is awarded for each conference to all co-authors of the selected paper. This Award recognizes the authors of the paper which is judged to be the best in terms of quality, innovativeness, and significance of the work described. It also recognizes excellence of the presentation.

Kuriki Award for Young Professionals

The "Kuriki Award for Young Professionals" (Kuriki Award) was announced to the Electric Rocket Propulsion Society (ERPS) community in November of 2016 and will be presented at each International Electric Propulsion Conference (IEPC) in honor of Dr. Kyoichi Kuriki's tremendous contributions to the advancement of Electric Propulsion (EP).

IEPC Awards

Stuhlinger Medal

The Stuhlinger Medal of Outstanding Achievement in Electric Propulsion is meant to be and remain the highest distinction given by the ERPS in recognition of outstanding technical or leadership contributions in Electric Propulsion engineering, science, technology, education, management, information exchange, or influencing programs that have led to important advancement in the field.

Author and Session Chair Information

Speaker and Chair briefing
Every morning during the conference (Monday to Friday), from 08:00 to 09:00, a speaker and chair briefing is offered in the “BIG Hörsaal” (see floorplan on page 5). Authors who are presenting on this day will meet with the chairs of their respective session for a short session briefing. Please attend on the day of your presentation or if you are a chair on that day. Information about the organization of the session and tasks of the chairs will be provided during this briefing. Speakers are asked to provide a very short bio (name and affiliation) to the chairs of their session such that the chairs can introduce them during the session.

Session chair report
All session chairs are asked to complete a session chair report. The report will be provided in each session room prior to the start of the session. More information about the report and the general tasks of the chairs will be provided each morning during the “Speaker and Chair Briefing”

Speakers practicing room
Speakers who wish to practice their presentation may do so in “Seminarraum 1/Speaker Ready Room” (see floor plan on page 7). A sign-up sheet is located on the door of “Seminarraum 1”. Please sign up for a 30 minute-slot. In consideration to others, please limit your practice time to a maximum of a 30 minute increment.

Session rooms
Each session room is equipped with a computer/laptop, LCD projector, screen, microphone and sound system. The presenters are encouraged to provide their presentation on a memory stick. If you choose to use your own computer, please arrive well in time before a session to have sufficient margin to test the compatibility of your system with the one provided in the session room. Technical assistance is provided in each session room in case you encounter difficulties.

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Kelly, C.	**14:00**	HS3								
Kempkens, K.							**15:45**	HS6		
Kerber, T.	**14:30**	SR2								
Khmelevskoi, I.							**11:00**	SR6		
Kim, M.							**16:45**	HS3		
Kim, V.					**10:15**	SR6				
Kinefuchi, K.							**10:15**	SR6		
Kitaeva, A.							**09:00 C**	SR3		
							15:45	SR3		
Kolbeck, J.	**15:00**	SR4							**09:45**	HS5
	16:00 C	SR4								
Komarov, A.										
Komurasaki, K.			**09:00 C**	SR2						
Kottke, N. G.	**15:15**	HS6								
Kozhevnikov, V.					**15:00 C**	HS5	**15:30**	HS5		
							15:45	HS5		
Kramer, A.					**10:45**	SR5				
Krejci, D.	**16:00 C**	SR5								
									11:15	SR5
									15:00 C	SR5
Kristinsson, B.	**14:00 C**	SR5							**15:15**	HS3
Kronhaus, I.										
Kubota, K.									**15:15**	HS6
Kumar, H. S.									**10:45**	HS2
Kuninaka, H.	**10:15**	Audimax								
La Rosa Betancourt, M.										
Lafleur, T.										
Lascombes, P.	**15:15**	SR3								
Laterza, M.	**16:30**	SR4							**15:15**	SR2
	18:00	SR4								
Laube, J.									**10:45**	SR2
Laufer, P.	**17:30**	HS6								
Lee, D.									**09:30**	SR6
Leiter, H.	**14:00 C**	**HS5**							**09:00 C**	HS5
Lenguito, G.	**14:00**	HS2	**10:00**	SR3						
Lev, D.	**15:30**	SR3	**09:00 C**	SR3	**10:15**	SR3				
Levin, D.	**16:15**	**HS5**			**15:45**	SR5				
	16:30	**HS5**								
Lewis, R.										
Li, W.	**14:45**	SR2								
Li, X.					**15:00**	HS3				
Li, Y.										
Liang, S.										
Ling, W. Y. L.	**16:45**	SR4								
Little, J.	**16:45**	HS3			**09:00 C**	HS2				

Name A → Z	Monday 16		Tuesday 17		Wednesday 18		Thursday 19		Friday 20	
Liu, H.					**10:15**	SR2			**09:00 C**	SR5
Liu, X.	**16:15**	SR5			**10:00**	HS3				
	17:30	SR4								
Lobbia, R.							**16:30**	SR6		
Lopez Ortega, A.					**09:45**	SR2				
					15:30	SR2				
Lovtsov, A.	**16:30**	SR2					**16:00**	HS5		
Lozano, P.					**09:00 C**	SR5				
Lucken, R.			**09:00**	HS5						
Lyne, C.							**15:15**	HS3		
Ma, C.	**16:00**	SR5			**10:45**	SR3				
MacArthur, J.			**10:00**	SR5						
Magarotto, M.			**10:30**	SR3	**09:00**	HS2	**10:00**	HS2		
Mallon, M.	**16:45**	**HS5**			**09:00 C**	HS5				
Mani, K. V.									**10:15**	HS2
Markov, A.					**15:00**	SR6				
Marmuse, F.	**17:15**	HS3								
Marrese-Reading, C.			**09:45**	SR5						
Martín Ortega, Á.							**15:45**	SR2		
Martin, R.							**15:00**	SR2		
Martínez Martínez, J.					**09:45**	HS5				
Masillo, S.					**11:15**	SR6				
Massotti, L.					**10:30**	SR5				
					15:00 C	SR5				
Matlock, T.	**15:15**	SR6	**09:00 C**	SR6			**16:00**	SR6		
	16:30	HS2								
Matsunaga, Y.					**15:15**	HS5				
Matyash, K.							**11:00**	SR2		
Mazouffre, S.	**14:00 C**	SR2	**09:00 C**	HS6	**11:00**	SR6	**15:00 C**	SR6		
McDonald, M. S.							**09:45**	HS6		
Merino, M.	**14:15**	HS3					**09:00 C**	HS3		
Micci, M.	**16:30**	HS3			**09:45**	SR4				
					15:00 C	SR4				
Mikellides, I.	**17:45**	SR2			**09:00 C**	SR6	**09:00 C**	HS6		
Mishra, A.			**09:00**	SR6	**15:00 C**	SR6	**17:30**	SR6		
Misuri, T.	**16:45**	SR6			**15:00 C**	SR6			**09:30**	HS2
	17:15	SR6								
Moloney, R.							**09:15**	HS3		
Monette, M.							**16:30**	HS3		
Montag, C.			**09:30**	SR4						
Mooney, M.	**15:45**	HS6					**09:00 C**	HS2		
Morishita, T.	**14:30**	HS6								
Mühlich, N. S.					**09:15**	SR5				
Muranaka, T.					**11:30**	SR2	**09:15**	HS5		
Murayama, Y.							**16:15**	SR3		
Myers, R.	**09:30 C**	Audimax								
Nagamine, K.					**16:15**	SR6				
Nakagawa, Y.							**18:00**	HS5		
Nakayama, Y.							**15:00 C**	SR6	**09:00**	HS3
Nakles, M.							**10:45**	SR6		
Nandyaca, H.					**10:15**	HS2				
Natisin, M.	**16:30**	SR5								
Nauschütt, B.									**09:45**	HS5
Navarro Cavallé, J.							**15:30**	HS2	**16:45**	HS2
Neugebauer, C.	**15:15**	HS3								
	16:00 C	HS6								
Neugodnikov, S.			**09:45**	SR3			**09:30**	SR3		
Neumann, A.	**17:00**	HS2								
Neunzig, O.			**09:00 C**	HS2					**10:15**	HS3
Nguyen, T. T. H.							**10:00**	HS5		
Ning, Z.									**09:15**	HS6
Ogunlesi, C.							**10:15**	SR4		
Oh, D.									**09:00 C**	HS2
Olano Garcia, A.	**17:30**	SR2								
Oshio, Y.	**16:00**	HS3								
Ottaviano, A.									**09:15**	HS3
Packan, D.							**09:00 C**	HS3	**10:45**	HS2
Pan, R.							**11:45**	SR2		
Panelli, M.							**11:00**	HS6		
Pavarin, D.							**09:00 C**	SR3		
Pedrini, D.							**09:00**	HS6		
Perales-Díaz, J.	**17:30**	**HS5**								
Perez Luna, J.							**09:00**	HS5		
Peterschmitt, S.									**09:00**	HS2
Peterson, P.							**10:30**	SR6		
							15:00 C	SR2		
Petro, E.	**17:00**	SR5					**16:00**	SR5	**15:00 C**	HS5

Name A → Z	Monday 16		Tuesday 17		Wednesday 18		Thursday 19		Friday 20
Pintó Marín, F. J.	**16:00 C**	HS2			**10:30**	SR3			
Polk, J.	**15:00**	HS3			**15:45**	HS5			
Polzin, K.	**14:00 C**	SR4							
	15:00 C	HS2							
	18:30	SR4							
Potrivitu, G.-C.			**10:00**	HS6					
			10:15	HS6					
Powis, A.							**16:15**	SR2	
Proulx, N.					**15:30**	SR6			
Quraishi, A.							**15:00**	HS2	
Raisanen, A.							**10:00**	SR2	
Raitses, Y.							**16:45**	SR2	
							17:30	SR2	
Rakhimov, R.	**15:30**	**HS5**							
Reeh, A.	**17:00**	**HS5**							
Reeve, S.					**09:45**	HS6			
Reissner, A.	**09:30**	Audimax							
	11:00 C	Audimax							
Reitemeyer, M.							**09:30**	HS6	
Ren, J. X.							**15:00**	HS5	
Richards, M.			**09:30**	SR3					
Robinson, M.					**10:00**	SR4			
Roessler, C.			**09:00 C**	SR3					
			10:15	SR3					
Rojas Mata, S.							**15:00 C**	HS2	
Romano, F.							**15:00**	HS3	
Romei, F.					**09:30**	SR4			
Rongione, N.			**09:00**	HS2					
Rosati Azevedo, E.							**10:30**	HS2	
Ross, J. L.							**15:15**	SR6	
Ryan, C.					**16:45**	HS2			
Sammut, M.	**14:30**	SR4							
Samples, S.					**10:45**	HS5			
Sánchez-Villar, A.					**10:15**	HS3			
Saravia, M. M.	**14:00 C**	SR6			**15:15**	SR6			
Sarrailh, P.					**11:15**	SR2			
Sasoh, A.							**11:15**	HS3	
Sato, Y.	**14:00**	**HS5**							
Scharlemann, C.	**10:00 C**	Audimax			**11:00**	SR5	**14:00 C**	**Audimax**	
	14:00 C	SR5							
Scholze, F.							**10:30**	HS5	
Schönherr, T.			**09:00 C**	SR4	**10:00**	SR5			
					15:00 C	HS3			
Schwertheim, A.					**09:30**	HS3			
Seifert, B.	**16:00**	HS2	**09:00 C**	SR5					
Sekine, H.							**09:30**	SR6	
							16:15	HS2	
Shashkov, A.	**16:45**	SR2							
Shaw, P.	**18:15**	SR4					**09:15**	SR2	
Shen, Y.					**10:30**	SR4			
Sheppard, A.	**14:30**	HS3							
Shimhanda, S.	**14:00**	SR4							

Name A → Z	Monday 16		Tuesday 17		Wednesday 18		Thursday 19		Friday 20	
Shimamura, K.					**16:30**	SR6				
Simmonds, J.			**09:45**	SR2	**10:00**	SR6				
Skalden, J.					**09:00**	SR4				
					10:45	SR4				
					15:00 C	SR4				
Smirnov, P.	**17:15**	HS6								
Smirnova, M.					**15:00 C**	HS5	**16:15**	HS5		
Smith, B. K.	**10:30**	Audimax								
Smolyakov, A.	**16:00**	SR6							**09:00**	HS5
									10:30	HS6
Snyder, S.									**09:15**	HS2
Sommavilla, T.	**15:15**	**HS5**								
Sommerville, J.	**17:00**	SR2								
Song, J.					**10:30**	HS2				
Song, P.	**15:00**	SR5								
Spears, R.					**13:30 C**	**Audimax**				
Spemann, D.							**11:30**	HS3		
Staab, D.							**10:15**	HS2		
Starchenko, A.			**09:15**	SR3						
Steiger, C.							**15:15**	HS6		
Stesina, F.					**16:15**	HS2				
Su, L.	**14:30**	SR6								
Surminskii, A.					**11:30**	SR3				
Sutherland, O.									**10:00**	HS2
Swar, K.	**16:15**	HS2								
Taccogna, F.							**10:45**	SR2		
Tachibana, T.					**15:45**	SR4				
Tahara, H.							**15:00 C**	SR3		
Tajmar, M.	**15:00 C**	HS3			**09:45**	SR5	**09:30**	HS3		
							09:45	HS3		
Takahashi, K.	**14:00 C**	HS3			**16:00**	HS2				
	17:00	HS3								
Takahashi, M.							**15:15**	HS2		
Takao, Y.	**14:00**	SR5								

Name A → Z	Monday 16		Tuesday 17		Wednesday 18		Thursday 19		Friday 20	
Takegahara, H.	**14:00 C**	**HS5**								
Tatsuno, A.					**15:15**	HS2				
Tauchi, S.							**09:15**	SR3		
Taunay, P.-Y.			**09:00**	HS6						
Tavant, A.									**10:00**	HS6
Thomas, R.							**17:45**	HS5		
Thompson, S.	**16:00**	HS6	**09:00 C**	HS6						
Thoreau, P.			**09:45**	HS2						
Thuppul, A.			**09:30**	SR5						
Tighe, W.									**10:15**	HS3
Trescott, J.	**15:15**	HS2					**09:00 C**	SR4		
Trottenberg, T.									**09:00 C** **10:00**	HS3 HS3
Tsikata, S.									**10:00**	HS5
Tsuchiya, M.					**15:30**	SR4				
Tsukizaki, R.							**09:00**	HS5		
Tsybulnyk, A.					**09:45**	SR3				
Turchi, P.	**16:15**	HS3			**09:00 C**	HS3				
Uchizono, N.			**09:15**	SR5						
Upadhyay, P. P.					**09:00 C** **15:15**	SR4 SR4				
VanWoerkom, M.	**18:30**	SR2								
Vaudolon, J.	**16:30**	SR6								
Vaupel, M.					**16:00**	SR6	**16:00**	HS3		
Vazsonyi, A. R.					**10:45**	HS6				
Velasco Valencia, R.					**09:00 C**	SR3				
Viges, E.	**17:45**	HS2								
Villafana, W.	**14:00 C**	SR2			**15:45**	SR2				
Villemant, M.					**15:00**	SR5	**15:15**	SR2		
Vincent, B.							**15:30**	SR6		
Wachs, B.							**09:15**	HS2		
Wada, A.							**16:30**	HS2		
Walker, M.					**13:30 C**	Audimax				
Wallace, N.							**15:00**	HS6	**09:00 C**	HS2
Wang, G.							**10:00**	SR3		
Wang, J.					**15:30**	SR5				
Wang, Y.							**10:45**	SR3		
Wang, Y.-F.	**15:30**	SR6								
Watanabe, H.			**09:00 C**	SR6			**16:00**	SR2		
Wegner, T.			**09:15**	HS6						
Wei, L.					**09:15** **15:00 C**	SR2 SR2				
Weiss, S.	**16:00 C**	SR2								
Wen, X.	**15:30**	HS3								
Wijnen, M.			**09:30**	HS2						
Williams, J.	**17:45**	**HS5**								
Winter, M.					**15:30**	HS3	**15:00 C**	HS3		
Wirz, R.	**15:45**	HS3								
Woods, J.	**14:45**	HS3	**09:00 C**	HS3						
Wright, P.	**15:30**	SR5								
Wu, P.							**10:30**	SR3		

Name A → Z	Monday 16		Tuesday 17		Wednesday 18		Thursday 19		Friday 20	
Yalin, A.			**09:30**	HS6						
Yamakawa, Y.					**09:45** **15:00 C**	HS2 HS2				
Yamamoto, N.							**15:00 C**	SR2	**09:00**	HS6
Yamamura, T.					**09:00 C**	HS2				
Yamasaki, J.					**16:30**	SR6	**15:30**	SR3		
Yamashita, Y.	**14:30**	**HS5**								
Yang, L.			**09:15**	SR4						
Yang, W.	**15:30**	HS6								
Yang, X.			**10:00**	HS2						
Yi, X.	**16:00 C**	SR6					**16:15**	SR6		
Yim, J.					**15:30**	HS5				
Yokota, S.					**16:30**	SR6				
Young, J.							**10:00** **17:30**	HS6 HS5		
Zarakovskiy, A.	**16:45**	HS6								
Zhang, Y.							**15:00**	SR3		
Zhang, Z.			**09:00**	SR4			**17:30**	HS3		
Zheng, H.	**15:00** **17:15**	**HS5** **HS5**								
Zhou, C.							**16:30**	SR3		
Zhou, J.					**09:45**	HS3				
Zhu, K.					**10:15**	HS5				
Zhu, X.							**09:30**	HS5		
Ziemer, J.					**11:30**	SR5				
Zitouni, B.	**15:30** **16:45**	HS2 HS2								
Zolotukhin, D.	**16:15**	SR4								
Zurbach, S.			**09:15**	SR6	**09:00 C**	SR6				

Explore the Poster Sessions at IEPC[19] to get insight into new technologies, current developments as well as different matters regarding Electric Propulsion.

Poster Sessions at the Main Exhibition Site
Monday 16th / 12:30 – 14:00
Thursday 19th / 12:00 – 14:00

Material Technology Cathodes, Gimbals

A835
Computer Modeling of Non-Emission Electron Source with High Frequency Ionization
S. Roshanpour

Resistojets/Arcjets

A132
Study on Low-Power Water-Cooled and Anode-Radiation-Cooled DC Arcjet Thrusters Using HAN and Water Propellants with Special Vaporing Systems
H. Tahara

MPD Thrusters

A130
Performance Characteristics of High-Power Steady-State MPD Thrusters with Divergent and Cusp Magnetic Fields Using Permanent Magnets for In-Space Propulsion
H. Tahara

A813
Integrated simulation solutions for the plasma and transversal physics in electric propulsion systems
M. Kubecka

Global Strategic Investments and Long-Term Planning

A350
Overview of SITAEL Electric Propulsion Developments
T. Misuri

Hall Thrusters

A131
Performance Characteristics and Interior Plasma Phenomena of High-Power and High-Specific-Impulse Hall Thrusters for In-Space Propulsion
H. Tahara

A334
Low frequency ionization oscillation model with azimuthal dimension in a Hall thruster
J. Bak

A490
A PIC/MCC simulation on the initial ignition stage of a 20mN Hall thruster
J. Yizhou

A570
Development of a 200 W Class Hall Thruster for an Active Debris Removal System
N. Yamamoto

A587
Fluid simulation of low frequency oscillations in Hall thrusters
A. Rostek

A674
2D (axial-azimuthal) Particle-In-Cell benchmark for ExB discharges
T. Charoy

A716
Study of the electron anomalous transport in a Hall effect thruster using a 2D multi-fluid simulation
K. Hara

Ion Thrusters

A194
A Thrust Balance for the MINOTOR ECR Thruster
S. Scharmann

A250
A 3D Hybrid-IFE-PIC-MCC model for the discharge chamber simulation of ion thrusters
Y. Cao

A256
2D Particle-in-Cell Simulation of Current Characteristics in Three-Grid Ion Optics
A. Sun

A335
Feasibility study of sublimable substance as an alternative propellant to xenon in ion thrusters
M. Adachi

A807
Combined optical emission and laser absorption spectroscopy of Xenon gridded ion thruster
R. Kozakov

Pulsed Plasma Thrusters

A133
Development of Commercially-Available Electrothermal Pulsed Plasma Thruster Systems for Powered Flight of Micro/Nano-Satellites at Osaka Institute of Technology
H. Tahara

A134
Development of the Osaka Institute of Technology 2nd PROITERES Nano-Satellite with High-Power Electrothermal Pulsed Plasma Thrusters for Powered Flight
H. Tahara

A135
Research of Debris Removal Systems by Electric Propulsion and Development of the 4th PROITERES Nano-Satellite for Its Practical Space Experiments at Osaka Institute of Technology
H. Tahara

A231
Longterm testing and evaluation of the vacuum arc thruster system using multi-element cathodes
M. Kuehn

A269
Evaluation of Coaxial Short-pulse Laser-assisted Pulsed Plasma Thrusters
K. Sato

A438
Study of two-stage pulsed plasma thruster with special propellant combined ion liquid and resin manufactured by 3D printer
J. Saiki

Innovative Concepts

A201
Design and Construction of a Rotating Magnetic Field, Field-Reversed Configuration (RMF-FRC) Thruster
C. Sercel

A286
Investigation of Antenna Current and Regime Transition in Electrodeless Inductive Plasma Generators
R. Georg

A414
Numerical Investigation of Ignition in a Novel Positron-Catalyzed Fusion Propulsion Concept
L. Brieda

A486
Characteristics of laser sustained plasma using argon and methane for on board laser-based thruster
M. Matsui

A568
Metallic Vapor Thruster using Field-emitted Electron Bombardments
P.-Y. Chang

A799
Thermal analysis of diode-laser coupled fiber-tip heat source for high-temperature generation
T. Matsuo

Thruster Concepts

A162
Studies on Helicon Plasma Thruster and Measurement Methods
D. Kuwahara

A416
1-D PIC Model of a Magnetically Enhanced Plasma Thruster
M. Minute

A483
Numerical Simulations of a Capacitively Coupled RF Micro-Thruster
A. Popoli

A866
Basic Characteristics of Plasma Thruster using ICR Heating in Sheet Plasma
A. Tonegawa

A809
Experimental Evaluation of the Micro Water Thruster Recovering Waste Heat of a Spacecraft
K. Nishii

Field Emission / Colloid Thrusters

A803
Probe study on ion beam and backflow for different electric propulsion technologies
V. Hugonnaud

A857
Molecular Dynamics Simulations of Nanodroplet Break-up for Ionic Liquid Electrospray Thrusters
Y. Takao

MONDAY

09.00 **Wecome Speech** — Audimax

09.30 **David C. Byers Memorial Lecture** → *see page 10* — Audimax
Moderated by Roger Myers

10.00 **Plenary Lecture with Agencies** → *see page 10* — Audimax
Electric Propulsion for Future Science and Exploration
Moderated by Carsten Scharlemann

11.00 **Panel Discussion** → *see page 10* — Audimax
EP in the Commercial Space Area / Moderated by Alexander Reissner

12.30 Lunch Break & Poster Session

	Material Technology Cathodes, Gimbals	Field Emission / Colloid Thrusters	Hall Thrusters 1	Hall Thrusters 2	Ion Thrusters
	HS6	SR5	SR6	SR2	HS5
	1st Chair D. Goebel **2nd Chair** G. Beratti	**1st Chair** C. Scharlemann **2nd Chair** B. Kristinsson	**1st Chair** O. Duchemin **2nd Chair** M. Saravia	**1st Chair** S. Mazouffre **2nd Chair** W. Villafana	**1st Chair** H. Leiter **2nd Chair** H. Takegahara
14.00	**A299** The Effect of Anode Position on Operation of a 25-A class Hollow Cathode *S. Hall*	**A149** Development of Ionic Liquid Electrospray Thrusters with a Massive Emitter Array for Higher Thrust Density *Y. Takao*	**A129** Hybrid Data-Driven and Physics-Based Model for Plasma Turbulence in a Hall Effect Thruster *B. Jorns*	**A532** Spatiotemporally Resolved Ion Velocity Distribution Measurements in the 12.5 kW HERMeS Hall Thruster *V. Chaplin*	**A154** Three-Dimensional Particle Simulations of Electron Extraction for a Miniature Microwave Discharge Neutralizer Using Water as the Propellant *Y. Sato*
14.15	**A300** The Effect of a Hall Thruster-like Magnetic Field on Operation of a 25-A class Hollow Cathode *S. Hall*	**A173** Laboratory Demonstration of a Staging System for Electrospray Thrusters *O. Jia-Richards*	**A147** Modular Comprehensive Modeling of Plasma Behavior in Hall Thrusters *T. Andreussi*	**A531** Ion Velocity Measurements in the Magnetically Shielded Miniature Hall Thruster (MaSMi) Using Laser-Induced Fluorescence *V. Chaplin*	**A309** Lifetime Evaluation of Microwave Discharge Neutralizer using Numerical Analysis *N. Hiroike*
14.30	**A557** Development of a Microwave Discharge Cathode for a 200 W Class Hall Thruster *T. Morishita*	**A225** Colloid Micro-Thruster (CMT) Component Development Testing Towards Meeting LISA Mission Requirements *N. Demmons*	**A204** Model for the Increase in Thruster Efficiency from Cross-Channel Coupling in Nested Hall Thrusters *L. Su*	**A513** Charge Exchange Collision in the Plume of a 200 W Laboratory Hall Thruster *T. Kerber*	**A218** Numerical study of microwave discharge ion thruster μ10 *Y. Yamashita*
14.45	×	**A372** Pure Ionic Electrospray Extractor Design Optimization *R. Antypas*	**A459** Magnetic Circuit Optimization for Hall Thrusters Design *C. Ferrato*	**A220** Study on the Influence of Electron Conduction Paths on the Ignition Process of Hall Thruster *W. Li*	×

	Pulsed Plasma Thrusters	Commercial Propulsion Needs	Global Strategic Investments	Innovative Concepts
	SR4	HS2	SR3	HS3
	1st Chair K. Polzin **2nd Chair** M. Kazeev	**1st Chair** V. Hruby **2nd Chair** F.Hey	**1st Chair** J. Gonzalez del Amo **2nd Chair** M. Andrenucci	**1st Chair** J. Brophy **2nd Chair** K. Takahashi
14.00	**A185** A Performance Comparison of solid Propellants in a Surface Arc Thruster: Sulfur and Teflon *S. Shimhanda*	**A303** Versatile Xenon Flow Controller for Extended Hall Effect Thruster Power Range *G. Lenguito*	**A189** Activities of the H2020 Strategic Research Cluster on Space Electric Propulsion (2015-2019) *J. Gonzalez del Amo*	**A202** Performance Scaling of Drag-Modulated Plasma Aerocapture *C. Kelly*
14.15	**A556** Performance Evaluation and Development of Air Bearing Thrust Measurement System of Surface Arc Thruster *K. Hiraka*	**A721** Development of an additively manufactured mass, volume and cost optimised fuel tank for microsatellite propulsion systems MiniTank *A. Haque*	**A711** The Importance of Electric Propulsion to Future Exploration of the Solar System *J. Cassady*	**A254** Fluid-kinetic propulsive magnetic nozzle model in the fully-magnetized limit *M. Merino*
14.30	**A616** Development of Pulsed Plasma Thruster for a Pico-Satellite *M. Sammut*	**A456** Progress in Automated System Design by Evolutionary Algorithms *M. Ehresmann*	**A753** Application of Solar Electric Propulsion in the Emerging Satellite Servicing Industry *M. Glogowski*	**A420** Theoretical scaling laws for water-vapor propellant thrusters *A. Sheppard*
14.45	**A899** Fiber-fed Pulsed Plasma Thruster (FPPT) for Small Satellites *D. Carroll*	**A253** An overview of French electric propulsion activities at CNES *C. Boniface*	**A876** Propulsion subsystem for a stand alone interplanetary CubeSat *D. Feili*	**A717** Validation of an Equivalent Circuit Model for Rotating Magnetic Field Field-Reversed Configuration Thrusters *J. Woods*

Material Technology Cathodes, Gimbals

HS6

15.00

A629
Development of a C12A7 Electride Hollow Cathode and Joint Operation with Plasma Thrusters
C. Drobny

15.15

A644
Comparison of the thermionic emission properties of LaB6 and C12A7
N. G. Kottke

15.30

A482
Development of High Current LaB6 hollow Cathode
W. Yang

15.45

A695
Featherweight Heaterless Hollow Cathode Characterization
M. Mooney

1st Chair V. GGarcia
2nd Chair C. Neugebauer

16.00

A768
Evaluation of Iodine Compatible Hollow Cathode Configurations
S. Thompson

16.15

A802
Diagnostic analysis of a 30 A heaterless hollow cathode
A. Daykin-Iliopoulos

Field Emission / Colloid Thrusters

SR5

A284
Micro-Newton Electrospray Thrusters for China's Space-Borne Gravitational Wave Detection Mission (Tian Qin)
P. Song

A344
Characterisation of electrospray microemitters fabricated by planar and 3D photolithography
T. Henning

A650
A Novel Variable Mode Emitter for Electrospray Thrusters
P. Wright

1st Chair D. Krejci
2nd Chair A. Hsu

A223
Direct Thrust Measurement and Plume Characterization of a Porous Electrospray Thruster
C. Ma

A471
Development and Characterization of an Ionic Liquid Electrospray Thruster with a Porous Metal Blade Array
X. Liu

Hall Thrusters 1

SR6

A470
Theoretical Models of Suppression of Instabilities in Hall Thruster by Shear of Magnetic Field
A. Kapulkin

A278
A Comparison of Possible Mechanisms for Facility Effects on Hall Thruster Operation
T. Matlock

A306
A comprehensive xenon collisional-radiative model of atomic and ionic excited levels for Hall thruster
Y.-F. Wang

1st Chair J. Boeuf
2nd Chair X. Yi

A762
Stationary Profiles and Axial Mode Oscillations in Hall Thruster
A. Smolyakov

A681
Status of Research Activities on Electric Propulsion at CIRA
F. Battista

Hall Thrusters 2

SR2

A276
Experimental Investigation of the Implications of Nesting Multiple Hall Thruster Channels
S. Cusson

A288
EP system development and functional validation tests for the Electra GEO satellite
V. Garcia

A142
Hall thrusters development at Exotrail: presentation and experimental investigation
A. Gurciullo

1st Chair S. Weiss
2nd Chair S. Arali

A791
Performance Comparison of a 2 kW Hall Thruster with Heaterless Cathodes Mounted on the Outer Pole Piece and on the Thruster Centerline
T. Andreano

A441
Development Status of 6-kW-class Hall Thrusters at JAXA
I. Funaki

Ion Thrusters

HS5

A272
Hybrid-PIC Simulation of Back-sputtered Carbon Transport in electric propulsion test facility
H. Zheng

A302
EMC considerations for RIT engines based on 3D full-wave field simulation of electromagnetic emission of their RF coils
T. Sommavilla

A496
Numerical simulation of plasma discharge in RF ion thruster
R. Rakhimov

1st Chair S. Ciaralli
2nd Chair –

A905
Analytical and numerical simulation of Ring Cusp Discharge Chamber
F. Cannat

A367
Plasma characteristics in the backflow region of ion thruster plumes using kinetic and electron fluid models
D. Levin

Pulsed Plasma Thrusters

SR4

A657
A Vacuum Arc Ion Thruster for SmallSat Applications
J. Kolbeck

A860
Optical measurements of ablation process of double-cylindrical pulsed plasma thruster
T. Inaba

1st Chair J. Kolbeck
2nd Chair B. Che

A421
Performance and Efficiency of Electric Solid Propellant in a Pulsed Plasma Thruster
M. Glascock

A659
Micro-cathode arc thruster improvement by the second MPD stage
D. Zolotukhin

Commercial Propulsion Needs

HS2

A826
HEMPT-Strategy to address current and future Space Market
J. Degremont

A212
The Benefits of Continued Advances in the Propulsive Capability of the Electric GEO Communications Satellite
J. Trescott

A210
EP orbit raising: environmental effects impact on satellites, modelling and challenges
B. Zitouni

A883
More added value? – an investigation on the commercial benefit of different EP technologies for orbital propulsion instancing H2020´s GIESEPP
C. Dietz

1st Chair E. Bosch
2nd Chair F. Pintó Marín

A790
Development of a 100 mN Horizontal Torsion Balance
B. Seifert

A413
Design and testing of a μN - mN torsional thrust balance with wireless microwave power transmission
K. Swar

Global Strategic Investments

SR3

A275
High power electric propulsion: MARS plus EUROPA - already beyond 2025!
F. Jansen

A418
Electric Propulsion for Small Satellites: A Case Study
P. Lascombes

A607
VENUS – Updates on Technological Mission Using IHET
D. Lev

Innovative Concepts

HS3

1st Chair M. Tajmar
2nd Chair J. Polk

A176
Effects of magnetic shielding on the performance of Multi-cusped field thruster
J. Geng

A243
Electric Propulsion Pointing Mechanism EPPM for the Spacebus Neo Platform
C. Neugebauer

A398
Modeling, Simulation and Testing of a Magnetically Enhanced RF Plasma Source for a High Power Electromagnetic Thruster
X. Wen

A547
Electric Propulsion Activities at the UCLA Plasma Space Propulsion Laboratory
R. Wirz

A564
Experimental Study of Traveling Wave Plasma Acceleration and Optimization of Magnetic Field Structure for Electrodeless RF Plasma Thruster
Y. Oshio

A766
Design of an Experiment for Compression and Nozzle Expansion of a Field-Reversed Configuration for Advanced Space Propulsion
P. Turchi

	Material Technology Cathodes, Gimbals	Field Emission / Colloid Thrusters	Hall Thrusters 1	Hall Thrusters 2	Ion Thrusters
	HS6	SR5	SR6	SR2	HS5
16.30	**A890** Characterization of a Fixed-Volume Release System for Initiating an Arc Discharge in a Heaterless Hollow Cathode *R. Ham*	**A522** Performance of a Fully Conventionally Machined Liquid-Ion Electrospray Thruster Operated in PIR *M. Natisin*	**A241** PPS®X00 Hall Thruster Development Status at Safran *J. Vaudolon*	**A342** Parametric study of 1,5- and 2.5-kW Hall Thrusters with an external discharge zone *A. Lovtsov*	**A529** Study of Ion Thruster Backflow Characteristcs with Neutralization Using Kinetic PIC-DSMC *D. Levin*
16.45	**A422** The development of the Integrated Thruster Unit ITU100 and ITU140 *A. Zarakovskiy*	**A787** Reconstructing Electrospray Plume Current Spatial Distributions using Computed Tomography *D. Courtney*	**A655** SITAEL HT100 Thruster, Full Ground Qualification *T. Misuri*	**A392** Laboratory tests of 10.5kW Hall thruster with external layer *A. Shashkov*	**A804** Theoretical and Experimental assessment of Ion Extraction phenomena *M. Mallon*
17.00	**A289** Development and Qualification of an Electric Propulsion Thruster Orientation Mechanism for the Electra GEO satellite *V. Garcia*	**A794** Investigation of Electrospray Plume Composition during Voltage Transients *E. Petro*	**A825** Development status of SITAEL's 20kW class Hall thruster *T. Andreussi*	**A740** Performance of the Aurora Low-Power Hall Effect Thruster *J. Sommerville*	**A612** Elegant Approach for solving the Conservation Laws in Global Modelling of Radio-Frequency Ion Thrusters *A. Reeh*
17.15	**A840** Research and development of radio-frequency cathode-neutralizer *P. Smirnov*	**A590** Interaction of Droplets in Electrospray Plumes *M. Davis*	**A885** SITAEL'S HT400 Hall-Effect Thruster for Constellation Applications *T. Misuri*	**A910** Performance, Stability, and Wear Characterization of a Sub-Kilowatt Hall Thruster *H. Kamhawi*	**A699** Three-dimensional simulation of ion thruster plume-spacecraft interaction using EX-PWS *H. Zheng*
17.30	**A477** CNT-based cold electron source for space applications on nano-satellites *P. Laufer*	×	**A193** The 12.5 kW Hall Effect Rocket with Magnetic Shielding (HERMeS) *R. Hofer*	**A216** Performance of a 100-Watt Radial Scaled Thruster with Anode Layer *A. Olano Garcia*	**A491** Studying the formation and neutralization of an ion thruster plume with EP2PLUS *J. Perales-Díaz*
17.45	×	×	**A266** A 30-kW Class Magnetically Shielded Nested Hall Thruster *S. Cusson*	**A410** Mechanism Behind the Dependence of Thrust on Facility Backpressure and Implications on the Operation of the SPT-140 Onboard the Psyche Mission *I. Mikellides*	**A854** Neutral Density Simulation in the Grid Region of Ion Thrusters using the ffx Ion Optics Code *J. Williams*

	Pulsed Plasma Thrusters	Commercial Propulsion Needs	Global Strategic Investments	Innovative Concepts
	SR4	HS2	SR3	HS3
16.30	**A662** Experimental Analysis of Cusped Magnetic Field Focusing on Vacuum Arc Thrusters *M. Laterza*	**A784** TIDBIT - Thruster In-Space Diagnostics with Bus Integrated Telemetry *T. Matlock*	×	**A785** Electromagnetic Propulsion Using Non-Ionized Dipole Gases *M. Micci*
16.45	**A798** An investigation of alternative propellants for pulsed plasma thrusters *W. Y. L. Ling*	**A211** Thrusters modelling, propellant choice and plume expansion: openPlumeEP capabilities *B. Zitouni*	×	**A848** Low-Field Mode Transitions in a Spiral-Antenna Helicon Thruster *J. Little*
17.00	**A554** Ignition Capability of Pulsed Plasma Thruster with Green Liquid Propellant *J. Aoyagi*	**A123** Cryopumping Challenges of EP-Propellants in DLR's Electric Propulsion Test Facility *A. Neumanni*	×	**A852** Laboratory demonstration of a bidirectional helicon plasma thruster for space debris removal *K. Takahashi*
17.15	**A898** Micro-Cathode Matrix Arc Thrusters- A Modified Approach to Micro-Cathode Arc Thrusters *K. Daniels*	**A796** Development of Propulsion Testing and Integration Facilities at Canon Electronics *W. Hatakeyama*	×	**A933** Lodine as propellant for electric propulsion: optical measurements of I density and temperature, comparisons to a global model *F. Marmuse*
17.30	**A321** Experimental Study on Ignition Reliability of Pulsed Plasma Thrusters *X. Liu*	**A656** Inter-Laboratory Comparison: Tests of a single thruster in two different facilities, on two different thrust balances *F. G. Hey*	×	×
17.45	**A536** The study on the lifetime of the micro cathode arc thruster *J. Geng*	**A653** University of Michigan's Upgraded Large Vacuum Test Facility *E. Viges*	×	×

	Material Technology Cathodes, Gimbals	Field Emission / Colloid Thrusters	Hall Thrusters 1	Hall Thrusters 2	Ion Thrusters	Pulsed Plasma Thrusters	Commercial Propulsion Needs	Global Strategic Investments	Innovative Concepts
	HS6	SR5	SR6	SR2	HS5	SR4	HS2	SR3	HS3
18.00	×	×	×	**A714** Impact of Facility Pressure on the Wear of the NASA HERMeS Hall Thruster *J. Frieman*	**A834** Development of a 3D ion optics modelling code *F. Guarducci*	**A661** Influence of Insulator Geometry on Vacuum Arc Thruster Lifetime *M. Laterza*	**A847** Improved Pumping Speed of Custom Cryopumps for Electric Propulsion Vacuum Facility *M. Crofton*	×	×
18.15	×	×	×	**A630** Data-driven Models for the Effects of Background Pressure on the Operation of Hall Thrusters *M. Byrne*	×	**A169** Predicting Pulsed Plasma Thruster Performance with Deep Recurrent Networks *P. Shaw*	×	×	×
18.30	×	×	×	**A664** Test Results of ExoTerra's Halo Electric Propulsion Module *M. Vanwoerkom*	×	**A893** Pulsed Plasma Acceleration Modeling in Detonation and Deflagration Modes *K. Polzin*	×	×	×
18.45	×	×	×	**A713** Variation in Ion Acceleration Characteristics of the HERMeS Hall Thruster during Magnetic Optimization *W. Huang*	×	×	×	×	×
19.00	Session End								

TUESDAY

Material Technology Cathodes, Gimbals

HS6

1st Chair S. Mazouffre
2nd Chair S. Thompson

09:00

A628
Experimental characterization of the attachment length in orificed hollow cathodes
P.-Y. Taunay

09.15

A663
Two-Photon Absorption Laser Induce Fluorescence (TALIF) of Neutral Xenon Density in a Barium Oxide Hollow Cathode Plume
T. Wegner

09.30

A689
Fiber Coupled Cavity Enhanced Thomson Scattering Diagnostic for Use in Electric Propulsion Facilities
A. Friss

09.45

A760
5-100 A LaB6 Hollow Cathodes for High-Power Hall Thrusters
G. Becatti

10.00

A427
Mode Transition in a LaB6 Hollow Cathode for Electric Propulsion Systems for Small Satellites
G.-C. Potrivitu

10.15

A428
Systematic Testing of Improved Designs of Miniaturized LaB6 Hollow Cathodes for Electric Propulsion Systems for CubeSats and Small Satellites
G.-C. Potrivitu

10.30

A369
Lithium Hollow Cathode for a Very High Isp Interstellar Precursor Ion Thruster
D. Goebel

10.45

A371
High Current Hollow Cathode for the X3 100-kW Class Nested Hall Thruster
G. Becatti

11.00 Conference Tour

Field Emission / Colloid Thrusters

SR5

1st Chair D. Courtney
2nd Chair B. Seifert

A213
Quantitative mapping of the mechanisms affecting electrospray thruster lifetime
A. Collins

A368
Resolving electrospray emission modes using high-speed current measurements
N. Uchizono

A571
Spatially-Resolved Electrospray Plume Current and Mass Flux Measurements and Analysis
A. Thuppul

A892
Characterization of Electrospray Thruster Electrode Overspray and Backspray
C. Marrese-Reading

A909
Microfluidic and materials improvements in the ion Electrospray Propulsion System
J. MacArthur

×

×

×

Hall Thrusters 1

SR6

1st Chair T. Matlock
2nd Chair H. Watanabe

A140
Development of a 1.5KW High Specific Impulse Magnetic Shielded Hall Thruster
A. Mishra

A274
High Throughput 1.5 kW Hall Thruster for Satcoms
S. Zurbach

A901
Development of the High Voltage Hall Accelerator Propulsion System
H. Kamhawi

A651
The Application of an Advanced Electric Propulsion System on the NASA Power and Propulsion Element (PPE)
D. Herman

A282
Overview of the Ascendant Sub-kW Transcelestial Electric Propulsion System (ASTRAEUS)
R. Conversano

A283
Development Acceptance Testing of the Thruster Component of the Ascendant Sub-kW Transcelestial Electric Propulsion System (ASTRAEUS)
R. Conversano

A873
Development of a low power HEMP Thruster EVO
R. Heidemann

A878
HT5k Thruster Unit Development History, Status and Way Forward
T. Andreussi

Hall Thrusters 2

SR2

1st Chair R. Hofer
2nd Chair K. Komurasaki

A879
SITAEL's Magnetically Shielded 20 kW Hall Thruster Tests
T. Andreussi

A591
Preliminary tests of HIKHET laboratory model at IPPLM
M. Jakubczak

A343
Effects of Thrust Noise on Drag-Free and Attitude Control System
K. Cui

A377
Mini-CHT powered Formation Flying Mission for Magnetic Reconnection Research in Space
J. Simmonds

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×

×

Ion Thrusters

HS5

1st Chair E. Bosch
2nd Chair D. Feli

A678
Global model of a magnetized ion thruster with xenon and iodine
R. Lucken

A831
Investigation on Alternative Propellants for Gridded Ion Engines
N. Fazio

A862
Integrated Vlasov-Fully Kinetic PIC Simulations of Plasma Plumes
C. Cui

A882
Influence of Hollow Cathode design parameters on Ring Cusp Discharge Chamber performances
F. Cannat

×

×

Pulsed Plasma Thrusters

SR4

1st Chair T. Schönherr
2nd Chair M. Glascock

A497
Investigation on the Discharge Arc Behaviour of an Asymmetric Electrodes Pulsed Plasma Thruster
Z. Zhang

A108
Analysis of Distributed Energy Release Characteristics in an Ablative Pulsed Plasma Thruster
L. Yang

A476
PETRUS 2.0 PPT and its CubeSat-size PPU: Testing and Characterization
C. Montag

A931
Development of an Electrostrictive Force Feeding Subsystem for Liquid Pulsed Plasma Thruster
C. Dobranszki

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×

Innovative Concepts

HS3

1st Chair J. Cassady
2nd Chair J. Woods

A361
Directed-Energy Propulsion Architecture for Deep-Space Missions with Characteristic Velocities of Order 100 km/s
J. Brophy

A458
Hybrid Electric Propulsion System on the Basis of SPT and PPT
M. Kazeev

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×

×

Power Processing Developments

SR3

1st Chair D. Lev
2nd Chair C. Roessler

A187
Study of Operation of Power and Propulsion System based on Closed Brayton Cycle Power Conversion Unit and Electric Propulsion
A. V. Karevsky

A270
Electric Propulsion Mission Design with Minimal Solar Cells Radiation Degradation
A. Starchenko

A190
High Efficiency Auto Resonant Converter Anode Power Supply Design, Development Testing
M. Richards

A346
Designing, Manufacturing and Testing of Power Processing and Control Unit for a 1.5 kW Hall Effect Thruster
S. Neugodnikov

A280
Deep Space Power Processing Unit for the Psyche Mission
G. Lenguito

A409
Design and Implementation of a High Voltage Supply for Gridded Ion Thrusters using model-based control algorithms
C. Roessler

A419
REGULUS: Know-How Acquired on Iodine Propellant
M. Magarotto

×

Thruster Concepts

HS2

1st Chair K. Dannenmayer
2nd Chair O. Neunzig

A242
Digital Filtering of Electric Thruster Time Domain Radiated Emissions
N. Rongione

A521
Direct thrust measurement of a vacuum arc thruster
J. Jarrige

A595
Mechanically amplified milli-Newton thrust balance for RF-thrusters
M. Wijnen

A715
Development of the SPACE Lab Thrust Stand for Millinewton Thrust Measurement
P. Thoreau

A578
Self-calibration Laser Induced Fluorescence technic in Electric Propulsion plasma diagnosing
X. Yang

A863
Laser ablation plasma diagnostics for electrostatic acceleration
A. Hamada

A623
Active Wave Injection Diagnostic for Plasma Dispersion Relation Measurements
E. Choueiri

A538
Torsional Balance Thrust Measurement Techniques for Small RF Thrusters
C. Cretel

WEDNESDAY

Material Technology Cathodes, Gimbals

HS6

1st Chair S. Gabriel
2nd Chair L. Garrigues

09:00

A782
Recent Advances in Low-Current Hollow Cathodes at SITAEL
D. Pedrini

09.15

A207
Tests of an iodine-fed rf-neutralizer
P. Dietz

09.30

A896
Ariane Group 5A Neutralizer qualification status
M. Berger

09.45

A297
Performance Testing of a Microwave ECR Neutralizer for the X-EPT Gridded Ion Thruster for Telecoms Applications
S. Reeve

10.00

A172
LaB6 hollow cathode work function enhancement: insight into the chemical processes
P. Guerrero

10.15

A245
Plasma model and experimental investigation of a hollow cathode neutraliser
A. Gurciullo

10.30

A301
Hollow cathode thermal modelling and self-consistent plasma solution: two step neutralization modelling
P. Guerrero

Field Emission / Colloid Thrusters

SR5

1st Chair P. Lozano
2nd Chair V. Hugonnaud

A139
Dual-Axis Torsional Thrust Stand for Simultaneous Direct Measurement of Thrust and Mass Loss
M. Gilpin

A445
Development of a Retarding Potential Analyser for Low Density FEEP Thruster Beam Diagnostics
N. S. Mühlich

A566
Two-dimensional plasma plume density characterisation of the IFM Nano Thruster
S. Keerl

A260
MEMS FEEP Thrusters – Miniaturised Liquid Metal Ion Source using Glass Capillaries
M. Tajmar

A362
Development, Production, and Testing of the IFM Nano FEEP Thruster
T. Schönherr

A675
The IFM Micro FEEP thruster: a modular design for smallsat propulsion
L. Grimaud

A686
The ESA Earth Observation Programme activities for the design, development and qualification of the mN-FEEP thruster
L. Massotti

Hall Thrusters 1

SR6

1st Chair I. G. Mikellides
2nd Chair S. Zurbach

A906
Qualification Status of the PPS® 5000 Hall Thruster Unit
O. Duchemin

A673
Qualification status of the EP system for Heinrich Hertz satellite (H2Sat)
S. Ciaralli

A599
Development and Performance Test of a 50 W-class Hall thruster
D. Lee

A634
Development and Characterization of a Miniature Hall-Effect Thruster using Permanent Magnets
N. Gondol

A375
Miniaturized Cylindrical Hall Thrusters
J. Simmonds

A465
Investigation of the possibility to develop competitive small power stationary plasma thruster (SPT)
V. Kim

A836
Overview of NASA's Solar Electric Propulsion Project
P. Peterson

Hall Thrusters 2

SR2

1st Chair A. Dominquez
2nd Chair C. Drobny

A156
Convergence of Stochastic Models for Electric Propulsion Plume Simulation
S. Araki

A222
Long-term Scale Characteristics of Low-frequency Oscillation of Hall Thrusters
L. Wei

A235
Study of Xenon Wall Accommodation Model and Background Flow During Hall Thruster Ground Test
G. Ito

A263
Numerical Investigations of Background Pressure Effects and Channel Erosion in the SPT-140 Hall Thruster for the Psyche Mission
A. Lopez Ortega

A247
Numerical Simulations of AFRL EP/TEMPEST experiment using the Thermophysics Unified Research Framework (TURF)
L. Brieda

A237
Study on Feed System of Iodine Cusped Field Thruster
H. Liu

A285
Influence of additional electric field on discharge performance of Hall thruster under internal and external cathode position studied by particle-in-cell simulation
X.-F. Cao

Ion Thrusters

HS5

1st Chair H. Leiter
2nd Chair M. Mallon

A356
T7 thruster design and performance
J. Perez Luna

A688
T5 Performance, Industrialisation and Future Applications
K. Hall

A360
Testing of a 50,000-s, Lithium-fueled, Gridded Ion Thruster
J. Brophy

A811
Development and testing of the NPT30 ion iodine thruster
J. Martínez

A383
Development of 50 W class RF gridded ion thruster
T. Nguyen

A446
Development Status of Microwave-ion Thruster M5 for Small and Micro Satellites
K. Zhu

A652
Discharge-Mode Testing of the X-EPT Microwave ECR Gridded Ion Thruster for Telecoms Applications
D. Hoffman

Resistojets/ Arcjets

SR4

1st Chair P. P. Upadhyay
2nd Chair –

A224
Electrostatic Probe Investigation of Very Low Power Arcjet VELARC in IRS and ESA-ESTEC Facilities
J. Skalden

A122
An Efficient Ionization Method for Pressure Up To Thousands of Pascals
L. Chang

A170
The Development and Qualification of the STAR Resistojet System for Telecommunications Applications
F. Romei

A786
A 17.8-GHz Ammonia Microwave Electrothermal Thruster for CubeSats and Small Satellites
M. Micci

A393
Lifetime Investigations of an Additively Manufactured High-temperature Resistojet Heat Exchanger from Tantalum
M. Robinson

A403
Structural effects on the high temperature performance of the Super High Temperature Additive Manufactured Resistojet (STAR)
C. Ogunlesi

A631
Effect of structure characteristics on start-up process of an Arcjet thruster
Y. Shen

Innovative Concepts

HS3

1st Chair P. Turchi
2nd Chair D. Packan

A158
Optimum design for the drive-coil of a 500J inductive pulsed plasma thruster and its numerical evaluation
B. Che

A191
Effects of Collisional-Radiative Processes with Relative Drift in Electric Propulsion Devices
R. J. Abrantes

A259
Water as an Alternative Propellant for a Next Generation Plasma Propulsion System
A. Schwertheim

A330
Numerical Simulations of the Plasma Discharge in an Helicon Plasma Thruster
J. Zhou

A560
Research on Micro Impulse Measurement Technology for Micro Cathode Arc Thruster
X. Liu

A633
PIC/fluid/wave simulations of the plasma discharge in an ECR plasma thruster
A. Sánchez-Villar

Power Processing Developments

SR3

1st Chair R. Velasco Valencia
2nd Chair D. Pavarin

A474
Development of a full bridge series resonant radio-frequency generator for optimized RIT operation
J. E. Junker

A512
High Voltage Power Supply for T5 Gridded Ion Thruster
M. Blaser

A567
Design and Manufacturing of Control Unit for low and medium power Hall Effect Thruster
S. Neugodnikov

A575
Development of High Efficiency Power Processing Unit for Hall Thruster
A. Tsybulnyk

A584
Power Processing Unit Activities at Thales Alenia Space in Belgium
E. Bourguignon

A729
Rafael's Power Processing Unit (PPU) for Electric Propulsion Systems
D. Lev

A888
AIRBUS DS PPU qualification status for HET, GIT and New Space Technologies
F. Pintó Marín

Thruster Concepts

HS2

1st Chair T. Yamamura
2nd Chair J. Little

A415
Numerical Model of a Magnetically Enhanced Plasma Thruster
M. Magarotto

A460
3D simulations of a magnetized Hall Effect thruster plume
F. Cichocki

A564
Investigation of the Circuit and Ablation Model for a Vacuum Arc Thruster
S. Bai

A573
Numerical Analysis of Plasma Acceleration Driven by Loop Coil in Electrodeless Thruster
Y. Yamakawa

A818
Effect of the initial electron distribution function in magnetic nozzle expansions
S. Correyero Plaza

A744
A 3D Numerical Study of Arcjet Thrusters: Effect of Electrode Configuration on Performance of Arcjet thruster
H. Nandyala

A609
Discrete Boltzmann Modeling of Atmospheric Pressure Plasma Jet
J. Song

Material Technology Cathodes, Gimbals

HS6

10.45

A331
An Axisymmetric Direct Kinetic Solver for Simulation of Hollow Cathode Plasmas
A. R. Vazsonyi

11.00

A452
A Plasma Model for Orificed Hollow Cathodes
M. Panelli

11.15

A914
Validation of a drift diffusion model for a hollow cathode
S. Gabriel

A781
A One-Dimensional model for Hollow Cathode Orifice lifetime prediction
F. Bosi

11.30

11.45

12.00

Lunch Break

13.30

Plenary Lecture → *see page 10* Audimax
The Role of EP in Leo
Chaired by M. Walker / R. Spears

15.00

1st Chair F. Bosi
2nd Chair –

A783
Numerical modeling and incoherent Thomson scattering measurements of a 5A cathode with LaB6 emitter
L. Garrigues

Field Emission / Colloid Thrusters

SR5

×

A805
CLIMB: Exploration of the Van Allen Belt by CubeSats
C. Scharlemann

A724
Recent flight data of the IFM Nano Thruster used for LEO orbit raising
D. Krejci

A895
LISA Colloid Microthruster Technology Development Plan and Progress
J. Ziemer

×

1st Chair D. Krejci
2nd Chair L. Massotti

A196
Droplets emission from FEEP and colloids thrusters: modelling of droplets dynamics and interaction with spacecraft body
M. Villemant

Hall Thrusters 1

SR6

A779
Development of low-power micro cylindrical hall thruster “SCHT-1”
T. Ikeda

A776
Characterization of a 100 A-class LaB_6 hollow cathode for high-power Hall thrusters
S. Mazouffre

A627
Experimental investigations and performance optimisation of the Halo thruster
S. Masillo

×

1st Chair T. Misuri
2nd Chair A. Mishra

A336
The research of the modified SPT-70 thruster parameters and characteristics
A. Markov

Hall Thrusters 2

SR2

A294
EP plasma plume in orbit: Diagnostics and analysis correlation
J. Laube

A639
Coupling of an all-electric spacecraft with its plasma plume and its environment
S. Hess

A833
Simulation of plasma plume experiments with Hall Thrusters: on-ground chamber effects on measurements and extrapolation to in-flight situation
P. Sarrailh

A858
Thruster Plume and Spacecraft Interaction Analysis by 3D Electrostatic Code for 4.5-kW-Class Hall Thruster
T. Muranaka

A473
Parallel codes using particles decomposition and view factor model methods for the particle in cell-Monte Carlo collision (PIC-MCC) simulation on cylinder hall thruster
R. Pan

1st Chair P. Peterson
2nd Chair L. Wei

A318
Coupled Simulation of Two-Dimensional Hybrid Hall Thruster Models
R. Kawashima

Ion Thrusters

HS5

A143
Development of the Miniature Xenon Ion Thruster with Hollow Cathode Operation
S. Samples

×

×

×

×

1st Chair M. Smirnova
2nd Chair V. Kozhevnikov

A668
The Analysis of Parameter Sensitivity of Electron backstreaming failure mode for 3-grid system ion thruster
Y. Jia

Resistojets/ Arcjets

SR4

A225
Development Progress of an Adaptable Deorbit System for Satellite Constellations
J. Skalden

A390
Performance Theory and Development of a Resistojet Based Hybrid Electro-Chemical Thruster
G. Coral

×

×

×

1st Chair M. Micci
2nd Chair J. Skalden

A520
Numerical Investigation of Micro-Cathodic Arc Thruster Lifetime using the PIC-DEM Method
L. Brieda

Innovative Concepts

HS3

×

×

×

×

×

1st Chair T. Schönherr
2nd Chair E. Ahedo

A174
Design and preliminary experiments of the prototype of a 500J inductive pulsed plasma thruster
X. Li

Power Processing Developments

SR3

A913
Development of a High Voltage Power Process Unit for a CubeSat Electrospray Thruster
C. Ma

A930
13kW Advanced Electric Propulsion System Power Processing Unit Development
E. Soendker

A937
Research on a controlled high voltage power supply for Power Processing Unit
Q. Kang

A464
Development of compact high efficiency RF generator for inductive coupled plasma sources
A. Surminskii

×

Thruster Concepts

HS2

A795
Numerical Simulation and theoretical analysis of Particle Acceleration in Traveling Magnetic Field Thruster
H. S. Kumar

×

×

×

×

1st Chair Y. Yamakawa
2nd Chair –

A198
Electrodeless Helicon Plasma Thruster Employing Additional Electromagnetic Acceleration Method
T. Furukawa

Material Technology Cathodes, Gimbals

HS6

15.15
A865
Comparisons between Particle Simulation using IAT Growth Model and Plume Measurements of LaB6 Hollow Cathode
K. Kubota

15.30
A874
Fluid model of a Hollow Cathode discharge
X. Chen

15.45
A153
Development of Low-Voltage-Driven Propellantless Cathodes with High-Current Density Based on Graphene-Oxide-Semiconductor Structure
R. Furuya

16.00
A214
Radio Frequency Microdischarge Neutralizer
F. Filleul

16.15 ×

16.30 ×

16.45 ×

17.00 ×

Field Emission / Colloid Thrusters

SR5

15.15
A317
Uncertainty Quantification of Electrospray Thruster Array Lifetime
B. Jorns

15.30
A526
Colloid Thruster Plume Simulations Using a Particle-Particle Model
J. Wang

15.45
A530
Effect of Aprotic + Protic Mixtures on Electrospray Droplet Fragmentation
D. Levin

16.00
A830
Development of an Electrospray Source Model for Kinetic Plume Modeling
E. Petro

16.15
A565
Numerical simulation of electrospray thruster extraction for highly conductive propellants
H. Huh

16.30
A559
Study on Performance of Ionic Liquid Electrospray Thruster in Atmosphere and Vacuum Environment
Y. Guo

16.45
A788
High-Speed Transient Characterization of the Busek BET-300-P Electrospray Thruster
D. Courtney

17.00 ×

Hall Thrusters 1

SR6

15.15
A660
I2HET: Development of an Iodine-Fed Hall Effect Thruster
M. M. Saravia

15.30
A838
Simulation of an Adaptable Hall Thruster
N. Proulx

15.45
A902
Performance, Plume, Stability, and Wear Characterization of Three Alternate Magnetic Field Topologies in the Hall Effect Rocket with Magnetic Shielding
H. Kamhawi

16.00
A637
Characterisation and Performance Comparison of a Low-Power Hall-Effect Thruster and an Advanced Cusp Field Thruster with Multiple Noble Gases
M. Vaupel

16.15
A752
Preliminary Evaluation of Anode-Layer-Type Hall Thruster Performance Using Pulsating Boost Chopper Circuit
K. Nagamine

16.30
A563
Impact on Performance and Erosion in Hall Thruster using Argon and Xenon propellant
S. Yokota
K. Shimamura

16.45 ×

17.00 ×

Hall Thrusters 2

SR2

15.15
A648
Multiscale Hybrid Modeling of Unconventional Hall Thrusters
M. Laterza

15.30
A281
Plasma Simulations for the Assessment of Pole Erosion in the Magnetically Shielded Miniature Hall Thruster (MaSMi)
A. Lopez Ortega

15.45
A364
Particle-In-cell / fluid simulations of a Hall effect thruster accounting for plasma wall interactions
W. Villafana

16.00
A478
The Sputtering Mechanism of Keeper Electrode in Hall Thruster
J. Chen

16.15 ×

16.30 ×

16.45 ×

17.00 ×

Session End → Gala Dinner beginning 18:30

Ion Thrusters

HS5

15.15
A680
Surface Modification of Pyrolytic-Graphite Grids for an Ion thruster
Y. Matsunaga

15.30
A722
Uncertainty Quantification of Modeled Electron Backstreaming Failure for the NEXT Ion Thruster
J. Yim

15.45
A907
Modeling Ion Optics Erosion in the NEXT Ion Thruster Using the CEX2D and CEX3D Codes
J. Polk

16.00 ×

16.15 ×

16.30 ×

16.45 ×

17.00 ×

Resistojets/ Arcjets

SR4

15.15
A837
Numerical Rebuilding of Very Low Power Arcjet Thruster VELARC in Test Facilities at IRS and ESA-ESTEC
P. P. Upadhyay

15.30
A562
A Chemically Augmented Arcjet Thruster with Exotic Propellants
M. Tsuchiya

15.45
A703
Effect of adding water to propellant of a DME arcjet thruster
T. Tachibana

16.00 ×

16.15 ×

16.30 ×

16.45 ×

17.00 ×

Innovative Concepts

HS3

15.15
A646
Operation and Performance of a Fully-Integrated ion Electrospray Propulsion System
B. Kristinsson

15.30
A742
Direct Inertial Electrostatic Confinement Propulsion at Low Power Levels
M. Winter

15.45
A761
Experimental demonstration of thrust vectoring magnetic nozzle with multi-axis thrust measurement system
M. Edamoto

16.00 ×

16.15 ×

16.30 ×

16.45 ×

17.00 ×

Thruster Concepts

HS2

15.15
A537
An Experimental Study of Thrust Dependence on Magnetic Field in an Electrodeless Inductive Plasma Accelerator
A. Tatsuno

15.30
A596
Development and Characterization of the Helicon Plasma Thruster Prototype HPT-03
J. Navarro-Cavallé

15.45
A647
Optimization of electrothermal microwave plasma thruster for nanosatellites
S. Ivanov

16.00
A855
Performance improvement of a magnetic nozzle helicon plasma thruster
K. Takahashi

16.15
A867
Cubesat Test Platform for miniaturized electric propulsion system verification campaign
F. Stesina

16.30
A815
Enabling High-Energy Missions with Nanosatellites by Using Ablative Pulsed Plasma Thrusters
P. Gessini

16.45
A920
The operation of a low-power cylindrical Hall thruster with zinc as the propellant
C. Ryan

17.00
A746
On the Performance of Arcjet Thrusters using Numerical Modeling: A case study of Hydrogen as a propellant
D. Akhare

THURSDAY

Material Technology Cathodes, Gimbals

HS6

1st Chair I. Mikellides
2nd Chair X. Chen

09:00

A249
Comparison of transient behavior in a 20 A hollow cathode in a 9 kW Hall thruster and a stand-alone configuration
M. Georgin

09.15

A430
Mechanism Analysis of Cathode Low Frequency Oscillation
Z. Ning

09.30

A604
Applicability of electride materials for hollow cathodes
M. Reitemeyer

09.45

A929
Additively Manufactured Hollow Cathode Keepers with Integral Radiation Shielding
M. S. McDonald

10.00

A845
Total Sputter Yield Characterization of Various Spacecraft Materials
J. A. Young

10.15

A155
Onset criteria for the plume mode oscillation in hollow cathodes
M. Georgin

10.30

A667
The neutral gas properties in orifice hollow cathode before its ignition
Y. Jia

10.45

Commercial Propulsion Needs

SR4

1st Chair J. Trescott
2nd Chair K. Dannenmayer

A592
The Ariane Group Electric Propulsion Program 2019-2020
H. Leiter

A926
Overview of Busek EP Thrusters
V. Hruby

A600
Electric Propulsion Developments at Rafael in 2019
D. Lev

Hall Thrusters 1

SR6

1st Chair C. Boniface
2nd Chair I. Funaki

A793
Life Estimation of Hall Thrusters using Multi Spectral Imaging
H. Gole

A408
Terahertz Time-Domain Spectroscopy as an Electric Propulsion Plasma Diagnostic
N. Brown

A861
Application of Helium Line Intensity Ratio Spectroscopy to Xenon plasma in Penning discharge
H. Sekine

A516
Hall Thruster Plume Measurements of Time Resolved Ion Energy
M. Baird

A308
Electron cross-field transport mechanism observed under the azimuthally inhomogeneous neutral supply in a Hall thruster
J. Bak

A449
On-board Plasma Plume Diagnostics for ETS-9 All-electric Satellite
K. Kinefuchi

A252
Significant ion acceleration of Xe ions outside the discharge channel in cylindrical Hall thruster plasmas observed by laser induced fluorescence
G. Doh

A246
Hall Thruster Near-Field Plume Characterization Through Optical Emission Spectroscopy
M. Nakles

Hall Thrusters 2

SR2

1st Chair R. Heidemann
2nd Chair T. Hallouin

A487
Oscillation analysis in Hall thrusters with 2D (axial-azimuthal) Particle-In-Cell simulations
T. Charoy

A501
Enhancing Hall Effect Thruster Simulations with Deep Recurrent Networks
P. Shaw

A732
Data-Driven Modeling for Nonlinear Dynamics of Physical Phenomena in Hall Effect Thrusters
K. Hara

A579
Analysis of the plasma discharge in a Hall thruster via a hybrid 2D code
P. Fajardo

A613
Boundary conditions for a two-dimensional direct kinetic simulation of a Hall thruster
A. Raisanen

A619
Operation of a Low Power Hall Thruster with a Shielded Magnetically Configuration
L. Garrigues

A642
Influence of Magnetic Field Strength on Narrow Channel Hall Thruster Discharge Operating at Very Low Power
I. Kronhaus

A720
Numerical studies of the ExB electron drift instability in Hall thrusters
F. Taccogna

Ion Thrusters

HS5

1st Chair S. Gabriel
2nd Chair C. Altmann

A287
Non-intrusive measurements of microwave ion thruster by two photon absorption LIF and laser Thomson scattering
R. Tsukizaki

A337
Estimation of Erosion Rate for Surface Material on HAYABUSA2 by Measurement of Backflow Ions from 10-cm-class Ion Thruster
T. Muranaka

A348
A novel optical line-ratio method for measuring the electron parameters in the discharge chamber of xenon ion thrusters
X. Zhu

A396
Optical plasma diagnostics for radio-frequency ion thrusters
B. Nauschütt

A503
Two-Photon Laser-Induced Fluorescence Diagnostics of a Radiofrequency Ion Thruster: Measurements in Xenon and Krypton
C. Eichhorn

A167
Near Field Probe Measurements in the Plume of a NEXT Ion Thruster
N. Arthur

A738
Determination of the Beam Divergence of a Gridded Ion Thruster Using the AEPD Platform
F. Scholze

A777
Planar probe array for bidimensional mapping of the ion flux profile of a miniaturized ion thruster
L. Habl

MPD Thrusters

SR3

1st Chair G. Herdrich
2nd Chair A. Kitaeva

A493
Magnetic Field and Current Density Probe for Steady State AF-MPD Thrusters
A. Behnke

A551
Simultaneous Measurement of Cathode Surface Temperature Distribution and Plasma Spatial Distribution in Self-Field MPD Thruster
S. Tauchi

A310
The Experimental Performances of the 100kW MPD Thruster with Applied Magnetic Field
Y. Cong

A759
Characterization and Improvement of Thrust Balance for High Power Applied Field MPD Thrusters
G. Herdrich

A314
Cathode Ablation Performance of Applied-Field Magnetoplasmadynamic
G. Wang

A585
Current Advances in Optimization of Operative Regimes of Steady State Applied Field MPD Thrusters
A. Boxberger

A401
Anode Power Deposition in an AF-MPDT with Two Unique Magnetic Field
P. Wu

A588
Experimental study of the discharge characteristic in AF-MPDT ignition
Y. Wang

Innovative / Advanced Propulsion Concepts

HS3

1st Chair M. Merino
2nd Chair –

A164
Evaluation of anomalous resistivity in a low power magnetic nozzle
S. Hepner

A199
Experimental Validation and Performance Measurements of an ECR Thruster Operating on Multiple Propellants
R. Moloney

A261
The SpaceDrive Project – EMDrive Thrust Measurements and Analysis
M. Tajmar

A262
The SpaceDrive Project – Overview of Revolutionary Propulsion Efforts at TU Dresden
M. Tajmar

A271
Plasma Jet Pack (PJP) Technology
A. Blanchet

A290
Characterisation of a Rotational Thrust Balance for Propellantless Propulsion Concepts Utilizing Magnetic Levitation with Superconductors
O. Neunzig

A333
High-Specific-Impulse Operation in Diverging Magnetic Field Electrostatic Thrusters with Argon Propellant
D. Ichihara

Thruster Concepts

HS2

1st Chair S. Peterschmitt
2nd Chair M. Mooney

A188
Comparison of waveguide-coupled and coaxial-coupled ECR magnetic-nozzle thruster using a thrust balance
S. Peterschmitt

A219
Optimization of a Low Power ECR Thruster Using Pulsed Power and Frequency Mixing Techniques
B. Wachs

A267
Development of the hall effect hollow cathode thruster
L. Chenguang

A363
Diagnostics and testing facilities for ionic liquid electrospray thrusters at the Air Force Research Laboratory
D. Eckhardt

A417
REGULUS: Iodine Fed Plasma Propulsion System for Small Satellites
M. Magarotto

A498
XMET: Design and early testing of a xenon microwave electrothermal thruster
D. Staab

A638
Analytical plasma modelling and design upgrade for an ECR thruster operating on water and ammonia propellants
E.R. Azevedo

A875
H2020 MINOTOR: Magnetic Nozzle Electron Cyclotron Resonance Thruster
D. Packan

Material Technology Cathodes, Gimbals

HS6

11.00

11.15

11.30

11.45

12.00

Commercial Propulsion Needs

SR4

Hall Thrusters 1

SR6

A387
Study of two different discharge modes in Hall thruster
I. Khmelevskoi

A824
BepiColombo – A mission overview
N. Wallace

A305
BepiColombo - Solar Electric Propulsion System Operations for the Transit to Mercury
C. Steiger

Hall Thrusters 2

SR2

A437
3D simulation of rotating spoke in a wall-less Hall thruster
K. Matyash

A726
Development of 1D Magneto-static Two-Fluid Plasma Simulation of a Hall Effect Thruster
K. Hara

Lunch Break & Poster Session

14.00

Plenary Lecture → *see page 11* — Audimax
BEPI Colombo – The Mission
Presented by Neil Wallace / Chaired by Carsten Scharlemann

15.00

1st Chair J. Gonzalez del Amo
2nd Chair N. Wallace

A841
Non-intrusive Characterization of the Wear of the HERMeS Thruster Using Optical Emission Spectroscopy
T. Gray

A932
Internal Probe Studies of a Low Voltage Hall Thruster
J. L. Ross

15.15

1st Chair S. Mazouffre
2nd Chair Y. Nakayama

A733
Coupling Non-Maxwellian View Factor Model to Octree Based Particle VDF Compression for Accelerated Spacecraft-Plume Simulation
R. Martin

A880
Particle-In-Cell model of the dynamic of the electrons between the two walls of Hall thrusters including realistic secondary electron emission data
M. Villemant

1st Chair N. Yamamoto
2nd Chair H. Kamhawi

Ion Thrusters

HS5

A145
Radio-frequency biasing of ion thruster grids
T. Lafleur

A507
A global performance model of Gridded Ion Thrusters
E. Ahedo

1st Chair J. Brophy
2nd Chair E. Petro

A175
Design and Experimental Study of an Miniature Ion Thruster
J. X. Ren

A238
Preparation of Space Experiment with Electric Propulsion System Based on Radio-Frequency Ion Thruster aboard the International Space Station
R. Akhmetzhanov

MPD Thrusters

SR3

A195
A Novel Laser Ablation Magneto-plasmadynamic Thruster
Y. Zhang

A313
Development of High Power Magnetoplasmadynamic Thrusters in BICE and Beihang University
Y. Li

1st Chair A. Boxberger
2nd Chair H. Tahara

Innovative / Advanced Propulsion Concepts

HS3

A382
Metallic Ion Thruster using Magnetron E-Beam mombardment
K. Chen

A385
Thrust Generation in Electro-static-Magnetic-Hybrid Plasma Thruster
A. Sasoh

A475
Design and Performance Test of a RF Plasma Bridge Neutralizer
D. Spemann

A488
Inductive Plasma Thruster (IPT) for an Atmosphere-Breathing Electric Propulsion System: design and set in operation
F. Romano

A500
Review of Dualmode/Multimode Space Propulsion
C. Lyne

1st Chair M. Winter
2nd Chair –

Thruster Concepts

HS2

A941
Development of the Xenon Cold Gas Thruster to Support All-Electric Propulsion Missions
I. Johnson

A608
XMET: Testing of an Argon/ Xenon Microwave Electrothermal Thruster
T. Baxter

A467
Performance Analysis of the Capacitively Coupled Radio Frequency Thruster
A. Quraishi

A577
Proposal and Performance Evaluation of Microwave-Driven In-Tube Accelerator Concept
M. Takahashi

1st Chair S. Rojas Mata
2nd Chair T. Furukawa

	BepiColombo	Commercial Propulsion Needs	Hall Thrusters 1	Hall Thrusters 2
	HS6	SR4	SR6	SR2
15.30	**A606** BepiColombo – The Mercury Transfer Module *H. Gray*	×	**A384** Incoherent Thomson scattering investigations of a low-power Hall thruster in standard and magnetically-shielded configurations *B. Vincent*	**A718** Investigation of cross-field electron transport in a 100-W class Hall Thruster using a full particle-in-cell simulation *S. Cho*
15.45	**A494** BepiColombo – MTM and MEPS Integration and Verification *K. Kempkens*	×	**A617** Characterization and performance measurements of 40 W-class and 100 W-class Hall thrusters *T. Hallouin*	**A582** Experimental characterization and modeling of ID-HALL, a double-stage Hall thruster with an inductive ionization stage *Á. Martín Ortega*
16.00	**A586** BepiColombo - Solar Electric Propulsion System Test and Qualification Approach *S. Clark*	×	**A528** Development Efforts on a Laser Thomson Scattering Diagnostic for Electric Propulsion Applications *T. Matlock*	**A447** Performance Evaluation of a 100-W Class Hall Thruster *H. Watanabe*
16.15	**A615** BepiColombo – MEPS commissioning activities and T6 ion thruster performance during early mission operations *R. Lewis*	×	**A598** Experimental Study on the Influence of Magnetic Field on the Performance of Low-power Hall Thrusters *X. Yi*	**A816** Scaling of spoke rotation frequency within an ExB Discharge *A. Powis*
16.30	×	×	**A298** Pole Erosion Measurements for the Development Model of the Magnetically Shielded Miniature Hall Thruster (MaSMi-DM) *R. Lobbia*	**A352** Neutral gas instabilities in Hall thrusters, Part I: Measurements *E. Dale*
16.45	×	×	×	**A432** Driving Low Frequency Oscillations in Hall Thruster *Y. Raitses*

	Ion Thrusters	MPD Thrusters	Innovative / Advanced Propulsion Concepts	Thruster Concepts
	HS5	SR3	HS3	HS2
15.30	**A239** Atmospheric Ramjet Thrust Unit on the Base of High-frequency Ion Thruster *V. Kozhevnikov*	**A542** Applied-Field MPD Thruster with High Current Heater-less Hollow Cathode *J. Yamasaki*	**A552** Interaction of Ultraviolet Light-emitting Diodes and Solid Polymers for Micropropulsion Applications *H. Horisawa*	**A594** Indirect electrothermal acceleration of a cold gas jet through interaction of an arcjet exhaust flow for space propulsion applications *Y. Arai*
15.45	**A240** Characteristics of Radio-Frequency Ion Thruster with an Additional Magnetic Field in the Ionization Area *V. Kozhevnikov*	**A872** Development of a 10-30 kW Augmented Field MPD Thruster at SITAEL *A. Kitaeva*	**A605** Hybrid Electric Propulsion System based on Water Electrolysis *N. Harmansa*	**A610** Informing the design of pure-ion electrospray thrusters via simulation of the leaky-dielectric model with charge evaporation *X. Gallud Cidoncha*
16.00	**A339** Ring Cusp Ion Thruster IT-200PM *A. Lovtsov*	**A450** Performance of Applied Field MPD Thruster with Various Propellants *S. Ide*	**A621** Advanced Cusp Field Thruster with a 3D-printed discharge channel - Performance with Iodine and Xenon *M. Vaupel*	**A643** Physics and performance of the Alternative Low Power Hybrid Ion Engine (ALPHIE) for space propulsion *J. González*
16.15	**A574** Test Campaign on the novel Variable Isp Radio Frequency Mini Ion Engine *M. Smirnova*	**A870** Plasma Plume Characteristics of Cluster Operation of Self-Field Magnetoplasmadynamic Thruster *Y. Murayama*	**A692** 13kW Advanced Electric Propulsion Flight System Development and Qualification *J. Jackson*	**A775** Azimuthal Induced Current Formation and Ion Acceleration in an Inductive Radiofrequency Plasma Thruster *H. Sekine*
16.30	**A797** Exprimental studies on the effect of the magnetic field and the electrical potential inside the water ion thruster *Y. Ataka*	**A329** Research on the 500kW Class Superconducting Strong Magnetic Field High Power Magnetoplasmadynamic Thruster Technology *C. Zhou*	**A712** The SpaceDrive Project – Progress in the Investigation of the Mach-Effect-Thruster Experiment *M. Monette*	**A829** Two-dimensional Full Particle-In-Cell Simulation of Magnetic Sails in Formation Flight *A. Wada*
16.45	**A806** A Nouvelle Neutralization Concept for RIT-µX Miniaturized Radio Frequency Ion Thruster Systems *H. Leiter*	**A801** Business Cases and System Architecture for Superconductor-based Applied Field Magneto Plasma Dynamic Thrusters *M. La Rosa Betancourt*	**A774** Development of a deployable vacuum arc thruster system for the post-mission disposal of micro/nano satellites *M. Kim*	**A903** An experimental revisit of plasma phenomena on Helicon Plasma Thrusters *J. Navarro Cavalle*

	Material Technology Cathodes, Gimbals	Commercial Propulsion Needs	Hall Thrusters 1	Hall Thrusters 2
	HS6	SR4	SR6	SR2
17.00	×	×	**A209** Hall Thruster Erosion Measurement by Time-Resolved Cavity-Ring Down Spectroscopy *Y. Egawa*	**A354** Neutral gas instabilities in Hall thrusters, Part II: Theory *E. Dale*
17.15	×	×	**A332** Numerical simulation and experimental research on low power Hall thruster with long life *Y. Ding*	**A632** Influence of double-stage operation on breathing oscillations and rotating spokes in the ID-HALL thruster *A. Guglielmi*
17.30	×	×	**A749** Prediction of liner erosion and life estimation of Stationary Plasma Thrusters using Machine Learning *A. Mishra*	**A433** Use of electrostatic probes for characterization of the electron cross-field current in ExB plasmas *Y. Raitses*
17.45	×	×	×	**A323** Experimental study on the effect of propellant asymmetrical distribution on plasma potential distribution in a Hall effect thruster *M. Ding*
18.00	×	×	×	×
18.15	Session End			

	Ion Thrusters	MPD Thrusters	Innovative / Advanced Propulsion Concepts	Thruster Concepts
	HS5	SR3	HS3	HS2
17.00	**A808** The RIT 2X High Performance Ion Thruster System Qualification Program *M. Berger*	×	**A886** Development Roadmap of SITAEL's RAM-EP System *T. Andreussi*	**A365** RF Power - Plasma Coupling Experimental Results in a Helicon Plasma Thruster Prototype *V. Gómez*
17.15	**A842** Charge State Thrust Correction Factor for NEXT: DART Mission *M. Crofton*	×	**A293** Back-vacuum Retarding Potential Analyzer for Investigation of IEC plasma properties *Y.-A. Chan*	**A940** A thruster using magnetic reconnection to create a high-speed plasma jet *S. Bathgate*
17.30	**A844** Deposition Rate Measurements in NEXT Ion Engine Plume for DART Mission *J. Young*	×	**A434** Beam Plasma Expansion of a Helicon Plasma Source *Z. Zhang*	×
17.45	**A853** NEXT Single String Integration Tests In Support of the Double Asteroid Redirection Test Mission *R. Thomas*	×	**A448** Modeling and Optical Diagnostics of Iodine Fed Helicon Type Thrusters by a Detailed Global Model (DGM) *K. Katsonis*	×
18.00	**A859** Experimental Characterization of the Microwave-Discharge Water Ion Thruster for CubeSats *Y. Nakagawa*	×	**A682** A Detailed Global Model for Modeling and Optical Diagnostics of Low Power Propulsion Devices Fed by CO2 *C. Berenguer*	×
18.15				

FRIDAY

Hall Thrusters 1

HS6

1st Chair T. Andreussi
2nd Chair Ya. Hu

09:00

A665
Plasma fluctuations measurements in a Hall Thruster
N. Yamamoto

09.15

A687
Axial-azimuthal high-frequency instability modes in a Hall thruster fluid model
E. Bello-Benítez

09.30

A454
Effect of magnetic field configuration on discharge characteristics in permanent magnet thrusters with cusped field
S. Liang

09.45

A593
Simulation of radial electron dynamics in a Hall effect thruster
A. Domínguez-Vázquez

10.00

A479
Predicting secondary electron emission rate in Hall Effect Thrusters
A. Tavant

10.15

A514
Enhancing thrust by ion-neutral collisions and by oscillating EM fields
A. Fruchtman

10.30

A523
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2nd Chair H. Liu

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D. Oh

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S. Snyder

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Yu. Hu

A304
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A843
Experimental Correlation between Anomalous Electron Collision Frequency and Plasma Turbulence in a Hall Effect Thruster
Z. Brown

Calling to and from Austria

International country code for Austria +43
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National calls: 0 + city code + number
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Currency / ATM

The currency used in Austria is the Euro (€). You may exchange foreign currencies at one of the bank institutes next to the university building *(See Area Map)* Volksbank (Schottengasse 1, Mon-Fri 08:00-12:30); UniCredit Bank Austria (Schottengasse 11, 24h service foyer); Oberbank (Schottengasse 2, Mon-Fri 08:00-12:30). There are also cash machines/ATMs (in Austria called "bankomat") available at these locations. In addition, there is one ATM available inside the university building in the corridor on the ground level leading to the Audimax lecture hall.

Electricity

The electric voltage in Austria is 230 V AC (at 50Hz). You can use your equipment, if the outlet voltage in your country ranges between 220 and 240 V, otherwise you have to use an adapter (100-240 V 50/60Hz). You have to use 2-pin type C or type F plugs for Austrian sockets.

Emergency Calls

Fire brigade: 122, Police: 133, Ambulance: 144,
European emergency call: 112

Parking

Parking is very restricted in Vienna, in particular in the area of the city centre. You have to use pre-paid tickets ("Kurzparkscheine"), which are available in four colours (red = 1/2 hour, € 1,05; blue = 1 h, € 2,10; green = 1 ½ h, € 3,15; and yellow = 2 h, € 4,20). These tickets can be purchased at any newspaper kiosk ("Trafik"). The closest "Trafik" to the IEPC 2019 venue is located directly at Schottentor, next to the tram station of lines 43, 44, D, 71. Parking with these tickets is limited to maximum 2 hours. You can also use equivalent electronic tickets by using an app when registering your car on www.handyparken.at. If you want to park for longer you have to use one of the car parks. The closest is the "WIPARK Votivpark-Garage" in the Universitätsstraße (24 hours open, € 4,30 per hour, € 43,-- per day)

Post Office

The closest post office is a 10-15 minute walk located in the Alserstraße: "Postfiliale und Bawag PSK", Alserstraße 31, Mon-Fri 08:00-18:00. Take tram no 43 or 44 for 2 stations from Schottentor.

Public Transportation

This is the most economical way to travel in Vienna – aside from walking. You can purchase tickets online (www.wienerlinien.at) or use one of the vending machines at Schottentor. You can find them downstairs on the way to the subway station of the U2 (violet line), just before entering the escalator down to the platforms. Do not forget to validate your ticket on one of the blue validation machines. The public transportation organisation (Wiener Linien) also provides special tourist tickets called Vienna Card, which combine public transport with reduced fees to the most popular touristic sites in Vienna.

Taxi

The closest taxi stands are located in the Schottengasse (next to the Schottentor) or on Rooseveltplatz (opposite of the hotel "Regina"). You can also call a taxi (+43 1 40 100 or +43 1 31 300). Uber is available in Vienna as well. For ordering taxi to the airport we recommend to use one of the airport taxi shuttle services (>1 day in advance) at a fixed prize (€ 30-35), e.g. www.airportdriver.at

Health Service / Hospital

If you need urgent medical care the closest hospital is the "Allgemeine Krankenhaus (AKH) Wien" (www.akhwien.at), 1090 Wien, Währinger Gürtel 18-20.

Supermarkets

The nearest supermarkets within 5-6 minutes walking distance from the IEPC 2019 site are: BILLA (Universitätsstraße 6-8, Mon-Fri 7:40-20:00), and SPAR Gourmet (Schottengasse 7, Mon-Fri 07:30-20:00).

Weather

In September there is significant continental influence. The average temperature is 16°C in the morning, 22°C during the day and 20°C in the evenings. The temperatures during the day can vary between a minimum of 6°C and a maximum of 31°C. While the rain ranges between 26mm and 89mm per month, sunshinehours of up to 260 are possible.

Full Papers

Full Papers will be published online on our website.

Badges

Admission to the conference venue is possible with a valid name badge only. Badges must be used throughout the entire conference and at the official social events. REMEMBER your badge even for excursions or the conference dinner. In case of loss you can obtain a replacement at the registration desk at a fee of € 30,00. Return of badges is highly appreciated (in the box located at the registration desk).

Coffee and Lunch Breaks

Food, hot and cold beverages will be served during the conference day and the lunch breaks free of charge. Lunch is available for all participants at two places in the exhibition area (under the arcades).

Special dietary requirements have been communicated to the conference caterer. Please inform the catering personnel, they will help you. Remember to wear your badge during lunch and coffee breaks.

Wardrobe

A wardrobe on the lower level is available for storage of clothes and luggage. It will be open during the session times. Please note that the room will be attended during these times, but storage is at your own risk with respect to loss and damage.

Exhibition Opening Hours

Monday 16th	09:00 – 17:00
Tuesday 17th	09:00 – 11:00
Wednesday 18th	09:00 – 17:00
Thursday 19th	09:00 – 17:00
Friday 20th	09:00 – 13:00

Health Care

In case you need assistance for urgent medical issues or any injuries please contact either the registration desk, a member of the IEPC 2019 staff, or call:
+43 664 602 77 17 630

Insurance

The IEPC 2019 cannot accept liability for personal injuries sustained, or for loss or damage of personal belongings either during or as a result of the meeting. Please check the validity of your personal insurance.

Language

The official meeting language is English.

Photographer

The entire conference will be documented by a team of professional photographers.

Registration Desk

Sunday 15th	16:00 – 18:00
Monday 16th	08:00 – 17:00
Tuesday 17th	08:00 – 10:00
Wednesday 18th	08:00 – 15:00
Thursday 19th	08:00 – 17:00
Friday 20th	08:00 – 12:00

Smoking at the IEPC 2019

Smoking is not allowed in the entire building of the University of Vienna, with the exception of the Arcaded Courtyard. Thank you for understanding.

WIFI

Free WIFI internet access is available throughout the entire venue. You can find the access code/voucher on the reverse side of your name badge.

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