

Recent works (last 3 years)				
Authors	Year	Title	Link	Topics
Justin M. Little and Edgar Y. Choueiri	2019	Electron Demagnetization in a Magnetically Expanding Plasma	https://journals.aps.org/prl/abs	magnetic nozzles, electron det
Kazunori Takahashi	2019	Helicon-type radiofrequency plasma thrusters and magnetic plasma nozzles	https://link.springer.com/article	magnetic nozzles
TA Collard, BA Jorns	2019	Magnetic nozzle efficiency in a low power inductive plasma source	https://iopscience.iop.org/article	magnetic nozzles
Min Li, Mario Merino, Eduardo Ahedo and Haibin Tang	2019	On electron boundary conditions in PIC plasma thruster plume simulations	https://iopscience.iop.org/article	unmagnetized plumes, kinetic
Joseph Wang and Yuan Hu	2019	On the limitations of hybrid particle-in-cell for ion thruster plume simulations	https://aip.scitation.org/doi/abs	unmagnetized plumes, hybrid (
June Young Kim, Jae Young Jang, K S Chung, Kyoung-Jae Chung and Y S Hwan	2019	Time-dependent kinetic analysis of trapped electrons in a magnetically expanding plasma	https://iopscience.iop.org/article	magnetic nozzles
Revathi Jambunathan and Deborah A. Levin	2020	A Self-Consistent Open Boundary Condition for Fully Kinetic Plasma Thruster Plume Simulations	https://ieeexplore.ieee.org/abs	unmagnetized plumes, kinetic
B. Wachs and B. Jorns	2020	Background Pressure effects on Ion Dynamics in a Low-power Magnetic Nozzle Thruster	https://iopscience.iop.org/article	facility effects
Doyle Scott J., Bennet Alex, Tsifakis Dimitrios, Dedrick James P., Boswell Rod W., Charles Christine	2020	Characterization and Control of an Ion-Acoustic Plasma Instability Downstream of a Diverging Magnetic Nozzle	https://www.frontiersin.org/artic	magnetic nozzles
Eduardo Ahedo, Sara Correyero, Jaume Navarro-Cavallé and Mario Merino	2020	Macroscopic and parametric study of a kinetic plasma expansion in a paraxial magnetic nozzle	https://iopscience.iop.org/article	magnetic nozzles, electron kin
Igor Kaganovich et al	2020	Physics of ExB Discharges Relevant to Plasma Propulsion and Similar Technologies	https://aip.scitation.org/doi/10	review paper
S. Hepner and B. Jorns	2020	The Role of Low Frequency Drift Waves in Driving non-classical Transport in Magnetic Nozzles	https://arc.aiaa.org/doi/10.2514	magnetic nozzles, large scale
Kazunori Takahashi, Christine Charles, Rod W. Boswell, and Akira Ando	2020	Thermodynamic Analogy for Electrons Interacting with a Magnetic Nozzle	https://journals.aps.org/prl/abs	magnetic nozzles, electron coc
Filippo Cichocki, Mario Merino and Eduardo Ahedo	2020	Three-dimensional geomagnetic field effects on a plasma thruster plume expansion	https://www.sciencedirect.com	unmagnetized plumes, geoma
S. Hepner, B. Wachs, and B. Jorns	2020	Wave-driven Non-Classical Electron Transport in a Low Temperature Magnetically Expanding Plasma	https://aip.scitation.org/doi/10	magnetic nozzles, wave-driven
S. Hepner and B. Jorns	2021	Anomalous electron thermal conductivity in a magnetic nozzle	https://arc.aiaa.org/doi/abs/10	magnetic nozzles, anomalous
Ryoji Imai and Kazunori Takahashi	2021	Demonstrating a magnetic steering of the thrust imparted by the magnetic nozzle radiofrequency plasma thruster	https://aip.scitation.org/doi/abs	magnetic nozzles, thrust vecto
June Young Kim, Geunwoo Go, Y S Hwang and Kyoung-Jae Chung	2021	Dependence of the polytropic index of plasma on magnetic field	https://iopscience.iop.org/article	magnetic nozzles, electron coc
Alfio E. Vinci and Stéphane Mazouffre	2021	Direct experimental comparison of krypton and xenon discharge properties in the magnetic nozzle of a helicon plasma source	https://aip.scitation.org/doi/10	magnetic nozzles
June Young Kim, Geunwoo Go, Y S Hwang and Kyoung-Jae Chung	2021	Exploring the nonextensive thermodynamics of partially ionized gas in magnetic field	https://journals.aps.org/pre/abs	magnetic nozzles, electron coc
Mario Merino, Judit Nuez and Eduardo Ahedo	2021	Fluid-kinetic model of a propulsive magnetic nozzle	https://iopscience.iop.org/article	magnetic nozzles, electron kin
Kazunori Takahashi	2021	Magnetic nozzle radiofrequency plasma thruster approaching twenty percent thruster efficiency	https://www.nature.com/articles	magnetic nozzles
Alfio E. Vinci and Stéphane Mazouffre	2021	Plasma properties conditioned by the magnetic throat location in a helicon plasma device	https://aip.scitation.org/doi/10	magnetic nozzles
Jiewei Zhou, Gonzalo Sánchez-Arriaga and Eduardo Ahedo	2021	Time-dependent expansion of a weakly-collisional plasma beam in a paraxial magnetic nozzle	https://iopscience.iop.org/article	magnetic nozzles, electron kin
A.I. Smolyakov, A. Sabo, P. Yushmanov, and S. Putvinskii	2021	On quasineutral plasma flow in the magnetic nozzle	https://aip.scitation.org/doi/full	magnetic nozzles
Alfio E. Vinci, Quentin Delavrière--Delion and Stéphane Mazouffre	--	Electron thermodynamics along magnetic nozzle lines in a helicon plasma	submitted to JEP	magnetic nozzles
Alfio E. Vinci, Stéphane Mazouffre, Víctor Gomez, Pablo Fajardo and Jaume Navarro-Cavallé	--	Laser-induced fluorescence spectroscopy on xenon atoms and ions in the magnetic nozzle of a Helicon plasma thruster	submitted to PSST	magnetic nozzles
A. Sabo, A. I. Smolyakov, P. Yushmanov, S. Putvinskii	--	Ion Temperature Effects on Plasma Flow in the Magnetic Mirror Configuration	https://arxiv.org/abs/2109.0200	magnetic nozzles, ion tempera
Pedro Jiménez, Mario Merino, Eduardo Ahedo	--	Wave propagation and absorption in a Helicon plasma thruster source and plume	submitted to PSST	magnetic nozzles, wave propa

Older references				
Authors	Year	Title	Link	Topics
Eduardo Ahedo and Mario Merino	2010	Two-dimensional supersonic plasma acceleration in a magnetic nozzle	https://aip.scitation.org/doi/abs	magnetic nozzles
Kazunori Takahashi, Trevor Lafleur, Christine Charles, Peter Alexander, Rod W Boswell	2011	Electron diamagnetic effect on axial force in an expanding plasma: experiments and theory	https://journals.aps.org/prl/abs	magnetic nozzles
Justin M. Little and Edgar Y. Choueiri	2013	Thrust and efficiency model for electron-driven magnetic nozzles	https://aip.scitation.org/doi/abs	magnetic nozzles
Kazunori Takahashi, Christine Charles, and Rod W. Boswell	2013	Approaching the Theoretical Limit of Diamagnetic-Induced Momentum in a Rapidly Diverging Magnetic Nozzle	https://journals.aps.org/prl/abs	magnetic nozzles
Mario Merino and Eduardo Ahedo	2014	Plasma detachment in a propulsive magnetic nozzle via ion demagnetization	https://iopscience.iop.org/article	magnetic nozzles, ion detachm
Mario Merino and Eduardo Ahedo	2015	Influence of Electron and Ion Thermodynamics on the Magnetic Nozzle Plasma Expansion	https://ieeexplore.ieee.org/doc	magnetic nozzles, electron coc
Manuel Martínez-Sánchez, Jaume Navarro-Cavallé and Eduardo Ahedo	2015	Electron cooling and finite potential drop in a magnetized plasma expansion	https://aip.scitation.org/doi/abs	magnetic nozzles, electron kin
Justin M. Little and Edgar Y. Choueiri	2015	Critical Condition for Plasma Confinement in the Source of a Magnetic Nozzle Flow	https://ieeexplore.ieee.org/doc	magnetic nozzles, confinement
Justin M. Little and Edgar Y. Choueiri	2016	Electron Cooling in a Magnetically Expanding Plasma	https://journals.aps.org/prl/abs	magnetic nozzles, electron coc
Mario Merino and Eduardo Ahedo	2016	Effect of the plasma-induced magnetic field on a magnetic nozzle	https://iopscience.iop.org/article	magnetic nozzles, induced ma
Kazunori Takahashi and Akira Ando	2017	Laboratory Observation of a Plasma-Flow-State Transition from Diverging to Stretching a Magnetic Nozzle	https://journals.aps.org/prl/abs	magnetic nozzles, diamagnetis
G. Giono, J. Gudmundsson, N. Ivchenko, S. Mazouffre, K. Dannenmayer, L. Popelier, D. Loubere, M. Meri	2017	Non-Maxwellian electron energy probability functions in the plume of a SPT-100 Hall thruster	https://iopscience.iop.org/article	Hall thruster plume measurem
Mario Merino and Eduardo Ahedo	2017	Contactless steering of a plasma jet with a 3D magnetic nozzle	https://iopscience.iop.org/article	magnetic nozzles, thrust vecto
Mario Merino, Javier Mauriño and Eduardo Ahedo	2018	Kinetic electron model for plasma thruster plumes	https://iopscience.iop.org/article	unmagnetized plumes, electron
Gonzalo Sánchez-Arriaga, Jiewei Zhou, Eduardo Ahedo, Manuel Martínez-Sánchez and Jesus Ramos	2018	Kinetic features and non-stationary electron trapping in paraxial magnetic nozzles	https://iopscience.iop.org/article	unmagnetized plumes, electron
Kazunori Takahashi, Christine Charles, Rod Boswell, Akira Ando	2018	Adiabatic expansion of electron gas in a magnetic nozzle	https://journals.aps.org/prl/abs	magnetic nozzles, electron coc
June Young Kim	2018	Thermodynamics of a magnetically expanding plasma with isothermally behaving confined electrons	https://iopscience.iop.org/article	magnetic nozzles, electron coc
Yuan Hu and Joseph Wang	2018	Expansion of a collisionless hypersonic plasma plume into a vacuum	https://journals.aps.org/pre/abs	unmagnetized plumes, electron
Lubos Brieda	2018	Model for steady-state fully kinetic ion beam neutralization studies	https://ieeexplore.ieee.org/abs	numerical boundary conditions
June Young Kim, K S Chung, Seongcheol Kim, Jong Hyeon Ryu, Kyoung-Jae Chung and Y S Hwang	2018	Thermodynamics of a magnetically expanding plasma with isothermally behaving confined electrons	https://iopscience.iop.org/article	magnetic nozzles, electron coc
A.G. Korsun, E.M. Tverdokhlebova, F.F. Gabdullin	2004	Mathematical model of hypersonic plasma flows expanding in vacuum	https://www.sciencedirect.com	unmagnetized plumes
Y. Zhang, C. Charles and R. Boswell	2016	Thermodynamic Study on Plasma Expansion along a Divergent Magnetic Field	https://doi.org/10.1103/PhysRe	magnetic nozzles, electron coc