

SCI Publications: Plasma Modeling

B Parent, MN Shneider, SO Macheret. “[Generalized Ohm’s law and potential equation in computational weakly-ionized plasmadynamics](#)”, *Journal of Computational Physics*, Vol. 230 (4), Pages 1439-1453, 2011. [firstpage.pdf](#) [article.pdf](#)

B Parent, SO Macheret, MN Shneider. “[Ambipolar diffusion and drift in computational weakly-ionized plasmadynamics](#)”, *Journal of Computational Physics*, Vol. 230 (22), Pages 8010-8027, 2011. [firstpage.pdf](#) [article.pdf](#)

B Parent, MN Shneider, SO Macheret. “[Sheath Governing Equations in Computational Weakly-Ionized Plasmadynamics](#)”, *Journal of Computational Physics*, Vol. 232 (1), Pages 234-251, 2013. [firstpage.pdf](#) [article.pdf](#)

B Parent, SO Macheret, MN Shneider. “[Electron and Ion Transport Equations in Computational Weakly-Ionized Plasmadynamics](#)”, *Journal of Computational Physics*, Vol. 259, Pages 51-69, 2014. [firstpage.pdf](#) [article.pdf](#)

B Parent, SO Macheret, MN Shneider. “[Modeling Weakly-Ionized Plasmas in Magnetic Field: A New Computationally-Efficient Approach](#)”, *Journal of Computational Physics*, Vol. 300, Pages 779-799, 2015. [firstpage.pdf](#) [article.pdf](#)

B Parent, MN Shneider, SO Macheret. “[Detailed Modeling of Plasmas for Computational Aerodynamics](#)”, *AIAA Journal*, Vol. 54 (3), Pages 898-911, 2016. [article.pdf](#)