

**MODELING WEAKLY IONIZED GASES  
USING TxFUIDS**

John Loverich and Ammar Hakim  
*Tech-X Corporation*  
5621 Arapahoe Avenue, Boulder CO, 80303

TxFuids is a high density plasma modeling tool under development at Tech-X corporation. The tool was originally developed for magneto inertial fusion (MIF) applications, but has recently been improved to include weakly ionized plasma effects such as atmospheric plasma chemistry relevant to low altitude hypersonic vehicles. This work presents recent progress in tool development and modeling of aero-plasmas in TxFuids.