

1125-85-1120 **Perry Bialek Vargas*** (perrybvargas@gmail.com), **Carl Gardner** and **Jeremiah Jones**.
Astrophysical Jet HH30: Hot, Dense, and Colorful.

This talk describes a gas dynamical model of the supersonic protostellar jet HH 30. To simulate the equations of gas dynamics, we use a positivity preserving third-order WENO scheme, parallelized with OpenMP and MPI. We are able to model the temperature and Densensity of this jet, based on observations by Bacciotti et al. (1999), as well as the surface brightness in the brightest spectral lines for the jet [S II] 6717 Å, 6731Å, [O I] 6563Å, and H α using Cloudy (Ferland et al. 2013). In reproducing the Hubble Space Telescope observations, we validate a new emission map capability for the WENO3 jet code of C. Gardner and J. Jones ultimately enhancing our understanding of the processes and dynamics of astrophysical jets. (Received September 20, 2016)