The effects of O-type star formation in embedded stellar clusters

Abstract: In a controlled set of simulations, I follow the formation and evolution of embedded star clusters and the effects of O-type star formation. To do this, I use the newly developed magnetohydrodynamic and N-body physics software suite *Torch*. I design two simulation pairs—each have identical initial conditions, but one is predetermined to form O-type stars early and the other will form 2Myr later. The evolution of the star clusters in each simulation is then analyzed to determine how O-type star radiation, winds, and supernovae affect the surrounding star cluster and natal gas.