Abstract Submitted
for the TSS16 Meeting of
The American Physical Society

Determining the Star Formation Histories of Dwarf Galaxies
JACQUELINE DUNN, Midwestern State University — The star formation histories of 28 dwarf irregular galaxies that reside in differing local and global environments are investigated. Local environment is defined by the local galaxy number density, where high indicates at least one neighbor within 200 kpc and low indicates no known neighbors within 1 Mpc. Global environment is classified as either field or group / cluster. Dwarf irregular galaxies are ideal candidates for a study on the role of environment in galaxy evolution due to their shallow gravitational potentials. Spectral energy distribution models are generated by varying the rate of star formation and amplitude to replicate periodic burst and constant star formation rate scenarios. An analysis of the usefulness of global galaxy color in constraining the star formation history of a galaxy will also be presented. Model degeneracy will also be addressed. Of the 28 galaxies presented here, roughly half were well fit by one of the models. Periodic burst systems account for roughly half of those galaxies, with the remaining galaxies being better represented by continuously star forming systems. The star formation histories are uncorrelated with both local and global environmental classifications.

Jacqueline Dunn
Midwestern State University

Date submitted: 02 Mar 2016 Electronic form version 1.4