Abstract Submitted
for the NWS08 Meeting of
The American Physical Society

Correlating vertical velocities of ionized interstellar medium to star formation rates in nearby face-on spiral galaxies CHRISTINA KETCHUM, STEPHEN TUFTE, Lewis and Clark College, MATHEW BERSHADY, DAVID ANDERSEN — We present observations of the ionized interstellar medium of 39 face-on spiral galaxies obtained with the WIYN 3.5-m telescope coupled to the Sparsepak integral field unit. We investigate the relationship between the vertical motions of the gas, as measured from the H-alpha line-widths, and the local star formation activity, traced by the H-alpha intensity. Several trends were found: 1) there exists a threshold H-alpha intensity below which the line-width is uncorrelated with the star formation activity and is presumably dominated by other thermal and turbulent processes 2) above this threshold many galaxies exhibit a strong positive correlation between the H-alpha line width and intensity and 3) even higher H-alpha intensities demonstrated a secondary trend line, in which the intensity leveled-off with increasing H-alpha line-width.

Christina Ketchum
Lewis and Clark College

Date submitted: 18 Apr 2008 Electronic form version 1.4