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Calibrating Mass Accretion Rates in Pre-Main Sequence Stars using Brackett Alpha Emission, and Pitfalls in Low Accretion Rate Systems DAKOTAH TYLER, University of Cincinnati — Using calibrations derived from correlations between luminosities of Hydrogen Line emissions, we can calculate Mass Accretion Rates for particular stars. Calibrations for the emission line strengths of Paschen Beta (1.28 microns) and Brackett Gamma (2.16 microns) are well known already. By analyzing correlations between the relative strengths of these emission lines and that of Br A (4.06 microns) we can calibrate Br A emission for producing Mass Accretion Rates as well. This is useful when extracting data from an observation that does not contain Pa B or Br G, but does contain Br A. It is important to be able to produce Accretion Rates on all observations, as variability in Low Accretion Rate Systems is a point of interest. In this presentation, we also look at some pitfalls associated with analyzing emission in these Low Accretion Rate Systems. Variability is defining characteristic of these systems, but this high level of variability can result in massive fluctuations in observations made in as little as weeks apart. Some of these observations even reveal negative fluxes at times when absorption seems to be stronger than emission from certain Hydrogen Lines.

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