

ANGULAR MOMENTUM REGULATION THROUGH STAR-DISK INTERACTION IN NGC 2264 AND ONC .

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Using Spitzer IRAC data and pre-main-sequence (PMS) star rotation periods from the literature in NGC 2264 and the Orion Nebula Cluster, we present the first unambiguous correlation between rotation period and the presence of a circumstellar disk across the entire period range represented in the samples. Observed period distributions of stars with and without a disk not only clearly confirm the claim that star-disk in-

teraction regulates the angular momentum of PMS stars; they also allow us for the first time to quantitatively analyze the star-disk interaction history in these clusters. We present results from robust Monte Carlo simulations used to study which critical disk parameters are allowed by current observational results.