

## Stellar radius inflation in the Pleiades and consequences for the ages of low-mass PMS stars.

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The radius of a star is a critical output of stellar models. It sets the effective temperature at a given luminosity and hence the age of PMS stars inferred from their positions in the HR diagram. Observations of low mass binaries show that standard models under-estimate stellar radii; the suggested cause being magnetic activity inhibiting convection and/or blocking surface flux due to star spots. We have measured radius inflation of single, magnetically active low mass stars in the Pleiades by combining rotation periods from the K2 mission with new  $v \sin i$  measurements of ~200 low mass stars to determine average radii as a function of luminosity. Comparison with model isochrones at Pleiades age shows an over-radius 12+/-2% compared to standard models. If such radius inflation is also present in younger active low-mass PMS stars then current estimates of their ages and masses are underestimated and the ages of young clusters inferred from low mass isochrones should be up two times older.

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