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# How low can you go? Probing disc locking efficiency for low-mass PMO's

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A key step in the formation of planetary-mass objects (PMO's, objects <20 M_J) is the disc locking phase, where the object's rotation is regulated by magnetic coupling with its ionized circumplanetary disc. By dumping excess angular momentum into the disc and allowing further accretion, disc locking is responsible for setting both the rotation and mass distribution of PMO's. Due to decreasing radiation output and disc mass, a transition to faster spins is expected at lower PMO masses as disc locking becomes less effective.
Despite healthy samples of PMO spins down to 10 M_J, this transition has yet to be found. This narrows it down to the observational gap between 1-10 M_J. Here we present four new spin measurements of rogue PMOs <10 M_J from high-resolution (R˜45,000) Gemini/IGRINS spectra, bringing the total from 2 to 6. We combine this population with bound planets <10 M_J and compare their low-mass spin distribution to the more massive PMO population, presenting our preliminary findings.

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