



The capture of Centaurs into Trojan-like orbits

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Large scale simulations of Centaurs have yielded vast amounts of data, the analysis of which allows both the bulk behaviour of the objects and interesting rare scenarios to be studied. One such rare behaviour is the temporary capture of Centaurs onto Trojan-like orbits. Such captures are generally short (10kyr - 100kyr), but occur with sufficient frequency that there is the possibility that photometric studies of the Trojan asteroids may reveal outliers with Centaur-like as opposed to Asteroidal characteristics. Uranus and Neptune seem to have great difficulty capturing objects into their 1:1 resonance, while Jupiter captures some, and Saturn the most. It is possible that the fact that the orbits of Jupiter and Saturn lie close to the 5:2 MMR helps ease objects into these temporary Trojan orbits.