

1994 CJ₁: The Smallest Binary Asteroid?

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Arecibo radar observations of asteroid 1994 CJ1 in late June/early July 2014 revealed two roughly equal-size bodies in mutual orbit. This is only the second such system identified in the near-Earth region following (69230) Hermes. The components of the 1994 CJ1 binary are, however, several times smaller than the components of the Hermes binary. At less than 150 meters in diameter, the components of 1994 CJ1 are comparable to the smallest primaries known. The maximum range separation of the components is at least 525 meters, implying a mutual orbit at least 7 primary radii wide, twice as wide as the (scaled) Hermes system, as well as a supercritical amount of angular momentum. Optical observations include a partial mutual event. Constraints on the physical parameters of the system will be presented along with comparisons to other known binary asteroid systems.