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Josep M. Cors* (cors@epsem.upc.edu). *Central Configurations of the planar 1+3 body problem.*

We study configurations with one massive central mass, M , and several infinitesimal co-orbital satellites (in our case, 3 satellites) describing the same circular orbit around M . A configuration that allows relative equilibria (in a rotation frame the satellites remain fixed) and homographic motions (the configuration of the satellites change its size, but keep the shape) is called central configuration.

We obtain two different classes of central configurations depending on the mutual distances between the infinitesimal masses. Both classes exhibit symmetric and non-symmetric configurations. In the case when two infinitesimal masses are equal we provide evidence that the number of central configurations varies from five to seven. (Received February 09, 2011)