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A new central configuration in the planar N-body problem

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ABSTRACT.

B. Elmabsout [C. R. Acad. Sci. **329**, Serie II (1991)] has proved that a central configuration of $2n$ bodies located on two concentric regular n-gons exists iff the polygons are homotetic or similar with an angle equal to $\frac{\pi}{n}$ and the masses on the same polygon are equal. In this paper we study the existence of a planar central configuration which consists of $3n$ bodies also situated on two regular polygons, the "interior" n-gon with equal masses and the "exterior" $2n$-gon with masses of two quantities, and these quantities alternate.

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