

El procedimiento de la fuerza ficticia: un símil del método del potencial unidimensional equivalente en la solución del problema de Kepler [

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text (article)

Analítica

An alternative procedure to the equivalent one-dimensional potential method is developed to describe the qualitative characteristics of the motion of two particles under the effect of central forces, applying it to the specific case of the Kepler problem related to the otion of the planets around the sun that is, for the inversely proportional attractive force law, the square of the distance. The new treatment called Fictitious Force Method is implemented in the context of Classical Mechanics and differs from the equivalent one-dimensional potential method in that instead to use the fictitious potential, the fictitious force is used; from this last perspective, it is identified that one is dealing with a simile, since it is acting within the same area of knowledge, and that it refers to a new tool with geometric characteristics to obtain qualitative solutions to the cinematic effects when you have central forces between two bodies. The simile, for the particular case treated, leads to the same results of the equivalent one-dimensional potential method that provides conic sections as trajectories for the attractive force of the inverse square between the bodies, but has the advantage that the values ​​of the force can be quantified effective for some specific orbits. Like the equivalent one-dimensional potential method, the fictive force simile can be arbitrarily applied to other central force laws and, most importantly, the procedure could show its potential in other areas of Contemporary Physics, Physical Sciences and ties to Engineering

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