



Contribution ID : 625

Type : Poster

QUANTUM GRAVITATIONAL EFFECTS IN EVOLUTIONARY EXPANSION OF COMPONENTS OF DETACHED DOUBLE-LINED ECLIPSING SYSTEMS (DDLES)

Monday, 5 October 2020 19:45 (15)

It is found that the distributions of the DDLES components along the coordinate axes $(GM/R)/H^2$ and $\log(g)$ have five and four peaks, the positions of which are defined by the steps of 1.177 and 0.069, respectively. M and R are the mass and radius of the DDLES component, respectively. Moreover, $H = 145.5 km/s$ and $g = GM/R^2$. The peaks are created by the populated areas of the temporal slowdown of the absolute evolutionary expansion of the DDLES component. Thus, the absolute evolutionary expansion of any DDLES component is, in particular, its transitions along the coordinate axes $(GM/R)/H^2$ and $\log(g)$ between these areas with its temporary localization in the latter. In this regard, the quantum gravitational effects are found along these coordinate axes. For any DDLES indexes 1 and 2 indicate its first and second components, respectively. It is found that the distributions of the DDLESes along the coordinate axis $\log(g_1/g_2)$ has four peaks, the positions of which are defined by the step of 0.0305. The peaks are created by the populated areas of the temporal coordinated relative evolutionary expansion of the first and second DDLES components. The same quantum gravitational effects are also found along the axes $\log((GM/R)_1/(GM/R)_2)$ and $\log(R_1/R_2)$. Thus, in any DDLES the relative evolutionary expansion of its first and second components is, in particular, their transitions along the coordinate axes $\log(g_1/g_2)$, $\log((GM/R)_1/(GM/R)_2)$, $\log(R_1/R_2)$, between these areas with their temporary localization in the latter. The symmetric separation of the populated area of the temporal coordinated relative evolutionary expansion of the first and second DDLES components into three such areas is found at $(GM/R)_1/(GM/R)_2 = 1$. It follows that in any DDLES there are some quantum physical systems which create the quantum stepwise absolute and relative evolutionary expansions of the first and second DDLES components. A general gravitational mass of any DDLES and the gravitational masses of its two components are proposed as these quantum physical systems.

Primary author(s) : SINITSYN, Sergei

Presenter(s) : SINITSYN, Sergei

Session Classification : Poster session

Track Classification : Gravitation and cosmology