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Centrifugal Force Between Two Orbital Systems

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Abstract: ***The situation where two orbits sit side by side occurs inside atomic and molecular matter, but is never observed on the astronomical scale. It will now be investigated whether or not two orbits in the same plane could repel each other with centrifugal force.***

Introduction

I. The official line ranges from the view that centrifugal force doesn't exist at all, to the view that it is only an artefact of making an observation from a rotating frame of reference. An additional view amongst experts in celestial mechanics is that the inverse cube law repulsive term in the radial planetary orbital equation should not be called centrifugal force. In a three body planetary problem, a single polar origin, usually the centre of mass, is used in the analysis.

The Four Body Problem

II. Consider four planets of equal mass and at a moment when they are all equally spaced along a straight line. As we move along the line, we will call the planets in order 𝕬, 𝕭, 𝕮, and 𝕯. At the moment in question, all four planets are moving perpendicularly to the line, and all are moving in the same plane. 𝕬 and 𝕮 are moving in one direction while 𝕭 and 𝕯 are moving in the opposite direction.

How Many Pairs of Centrifugal Force?

III. The four planets now constitute three adjacent pairs of two planets with each planet in a pair moving in opposite directions to each other. The three pairs are 𝕬 and 𝕭, 𝕭 and 𝕮, and 𝕮 and 𝕯. How many pairs of centrifugal force are there? The official line is that there are no pairs of centrifugal force and that gravity will be pulling all four planets together. If however planets 𝕬 and 𝕭 are partaking in a circular orbit, they will not close in together under gravity. The same applies to planets 𝕮 and 𝕯. So whatever formula of words is used to explain this fact without resorting to the word ***centrifugal force***, the question then remains as to whether this same explanation applies to the situation that exists between the two planets 𝕭 and 𝕮 in the middle of the row? And if not, why not? The three situations are momentarily identical. It would stand to reason that 𝕭 and 𝕮 would also be prevented from closing in on each other for the exact same reason that 𝕬 and 𝕭 don't close in on each other, and that 𝕮 and 𝕯 don't close in on each other. This four body scenario hints at a repulsive centrifugal force acting between two orbital systems. It might however be asked how two separate circular orbits could be sustained bearing in mind that 𝕭 and 𝕮 might swap positions. This could be prevented by tethering 𝕬 to 𝕭, and 𝕮 to 𝕯, but for such a situation to occur naturally, we would need to have many orbital systems all hemming each other in. This way, the centrifugal force between the orbits would oppose the tendency to expand due to the centrifugal force within each orbit.

Conclusion

IV. Centrifugal force acts between every pair of particles that are in mutual transverse motion, and as such, a repulsive force can exist between adjacent orbital pairs. A sea of dipoles where each dipole consists of a negative particle orbiting a positive particle will involve a centrifugal repulsive force between each dipole. This inter-dipolar repulsive force has so far never been recognized to exist in mainstream physics. Since a dipole force field is known to be inverse cube law, and since centrifugal force is inverse cube law, a sea of tiny electron-positron dipoles pervading all of space could account for both the inertial forces and the electromagnetic forces. Two spinning gyroscopes don't repel each other because their interaction is not directly with each other, but rather each interacts with the background electron-positron sea. In the case of the planets however, the electron-positron sea is entrained within their gravitational fields, and so the interaction is a shear interaction between two regions of electron-positron sea, at the interface between the two gravitational fields.

References

[1] Tombe, F.D., ***"The Electron-Positron Sea"***
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