

# **Possible New Explanation for: The Flattening of Galaxy Rotation Curves**

**Hasmukh K.Tank**

*Indian Space Research Organization,  
22/693 Krishna Dham-2, Ahmedabad-380015 India*

*e-mail: tank.hasmukh@rediffmail.com*

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## **Abstract:**

As an explanation for the flattening of galaxy rotation curves, it is proposed here that: the centripetal force experienced by the stars at out-skirts of galaxies may be a combination of gravitational-force and electric-force. Since both, the stars and the central-core of a galaxy are in the plasma state, there is always a possibility of charge-imbalance between the core and the stars at out-skirts; and so there is some electric-force between them, in addition to the gravitational attraction. Therefore the astronomical observation of flattening of galaxies rotation-curve need not shake our faith in Newtonian Dynamics.

## **The Description:**

The difference between observed velocities and the velocities expected as per Newton's law of gravitation is currently being explained either in terms of 'dark-matter', or the Modified Newtonian Dynamics (MOND); but none of the two has been conclusively proven. So there is a scope for simpler easily understandable and testable new explanation, as proposed here.

As a new explanation for the flattening of galaxy rotation curves, it is proposed here that: the centripetal force experienced by the stars at out-skirts of galaxies may be a combination of gravitational-force and electric-force. Since both, the stars and the central-core of a galaxy are in the plasma state, there is always a possibility of charge-imbalance between the core and the stars at out-skirts; and so there is some electric-force between them, in addition to the gravitational attraction. The stars have been observed to radiate charged-particles in the form of cosmic-rays, so the net charge of the star keep changing. Similarly, also the 'core of a galaxy' keeps on radiating charged-particles, leading to charge-imbalance. Therefore the astronomical observation of flattening of galaxies rotation-curve need not shake our faith in Newtonian Dynamics.