

Abstract Submitted
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A new model without dark matter for the rotation of spiral galaxies MARIO DE SOUZA, Universidade Federal de Sergipe — It is proposed that the arms of spiral galaxies are formed by the continuous outflow of matter from their centers. It is then shown that the ratio between the radial and tangential velocities of the outflow is the parameter responsible for the logarithmic spiral structure of spiral galaxies. The fitting of some spiral galaxies to the model allows the calculation of the radial velocities of matter in these galaxies and such values completely agree with the observational data. An approximate universal equation is proposed for the description of the arms of spiral galaxies with or without bars. Some important consequences are discussed with respect to dark matter, galactic evolution, cosmology, and the Milky Way. It is, particularly, concluded that dark matter does not exist in spiral galaxies.

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