

ABSTRACT ONLY

KINEMATICS AND TOTAL MASS OF THE LOCAL GROUP

S. Velasco-Moreno¹ and J. E. Forero-Romero¹

Recent kinematic studies of the Local Group show some inconsistency with one and other. Some observations suggest the tangential velocity of M31 with respect to the Milky Way is around $v_{tan} \sim 30 km s^{-1}$ while other groups claim values of $v_{tan} 100 km s^{-1}$. This leads to the question of what is the most likely kinematic configuration for the Local Group. In this work we use cosmological simulation in order to define those most common kinematic configurations. Our results for the kinematics are presented as a function of different cosmological parameters and prior values for the LG total mass. In turn, assuming the most accepted constraints for the LG total mass and the cosmological parameters we find that the observed LG has atypical kinematics once it is considered in a broad cosmological context.

¹ Departamento de Física, Universidad de los Andes, Cra. 1 No. 18A-10, Edificio Ip, Bogotá, Colombia.
