

## ABSTRACT ONLY

ABSTRACT LARIM :VERONICA ARIAS

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The anisotropic distribution of satellite galaxies in the Milky Way, Andromeda and Centaurus A cannot be readily explained by current galaxy within the  $\Lambda$ CDM cosmology. The models predict preferential directions for accretion but many observational features, specially for the so-called thin disk of Andromeda satellites, are difficult to reproduce. In this work we approach the problem of finding an explanation to the formation of anisotropic satellite structures in two ways. First, we use simple dynamical simulations to constrain the possible orbits of satellites around Andromeda and reinterpret the observations. We find that 7 out of the 15 satellites in the Andromeda plane could have very similar orbits suggesting that the satellites came from a common accretion event. Second, we explore the validity of using dark matter only simulations to infer the properties of luminous satellites. To this end we use the results of the Illustris cosmological simulation to explore to what extent the spatial distribution of luminous satellites' follows the distribution of dark matter sub-halos.

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**Falta título y autores los autores**

**Falta una frase de conclusión para los resultados del segundo trabajo**

**Falta una conclusión general que relacione los dos resultados con el problema general descrito al principio.**