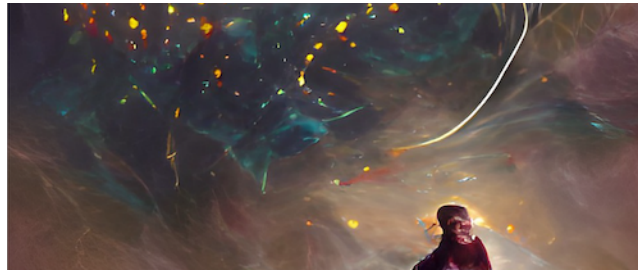


Cosmic Cartography 2022: Exploring the Cosmic Web and Large-Scale Structure



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Galaxy Evolution in the Cosmic Web: The Baryon Content of Field Galaxies in a High-Resolution Cosmological Simulation

Monday, 7 March 2022 16:40 (20 minutes)

It is known from theory and observations that galaxy evolution can be influenced by environmental effects. Processes like ram pressure stripping in groups, clusters or the cosmic web as well as tidal stripping can affect the final properties of galaxies. However, until now no estimates exist on the relative importance of different processes for the final properties of field galaxies. Based on a high-resolution cosmological simulation I will show how a non negligible (25 %) galaxy population is affected by environmental processes connected with ram pressure stripping in different environments. I will further discuss the role of the cosmic web and galaxy groups in ram pressure stripping events as well as the effect of tidal stripping on the final properties of this sub-population. The results I present will provide a theoretical framework for observers to interpret their studies of how galaxies interact with their environment and how the cosmic web contributes in galaxy evolution.

Presenter: HERZOG, Georg (University Milano-Bicocca)

Session Classification: Day 1 Afternoon