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Active Galactic Nuclei and Stellar kinematics SANA ELGAMAL, ANDREA MACCIO, New York University Abu Dhabi — Cosmological numerical simulations have greatly contributed to our understanding of the physical processes governing galaxy formation and evolution. In this work, I will present a new analysis of the NIHAO (Numerical Investigation of Hundred Astrophysical Objects) suite, the largest collection of high-resolution simulations of galaxy formation, to investigate the internal kinematics of the stellar component of massive galaxies. Observations, namely the SAURON and the ATLAS^{3D} surveys, have established the dichotomy between fast and slow rotating galaxies. I will present a detailed comparison with the results of the ATLAS^{3D} survey, aimed to understand the abundance and formation pathway for fast and slow rotators. The NIHAO galaxies are able to reproduce the observed relative frequency of fast and slow rotators only in the presence of vigorous feedback from Active Galactic Nuclei (AGN). Such feedback is key to prevent the formation of new fast rotating (disk-like) component after major mergers, thereby increasing the occurrence of slow rotators. Our results highlight the importance of non-stellar feedback in shaping the stellar kinematics of massive galaxies.

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