

# **CLONES: Digital Twins of the Local Universe based on peculiar velocities**

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To understand dark matter and dark energy, which make up 95% of the Universe, cosmological surveys must achieve percent-level precision. However, this precision uncovers tensions between observations and the standard cosmological model, potentially arising from systematic biases. CLONES (Constrained LOcal & Nesting Environment Simulations) are digital twins of the local Universe, derived from the peculiar velocities of galaxies, to faithfully replicate our cosmic environment and address these challenges. This presentation will introduce these CLONES and highlight their capabilities through a selection of applications.

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