

The Role of Dark Matter in Galaxy Formation

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Abstract. Dark matter, an elusive component of the universe, plays a pivotal role in the formation and evolution of galaxies. This study examines the gravitational effects of dark matter on baryonic matter, providing insights into the large-scale structure of the cosmos.

Keywords: dark matter, galaxy formation, gravitational effects, baryonic matter, astrophysics

Introduction

Dark matter constitutes a significant portion of the universe's mass, yet it remains one of the most mysterious components in astrophysics. Its gravitational influence is fundamental to the formation and stability of galaxies. This paper investigates the impact of dark matter on galactic structures, examining theoretical models and observational data. Understanding these interactions is crucial for unraveling the complexities of galaxy formation and evolution.

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References

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