Measuring Cosmological Parameters with the JVAS and CLASS Gravitational Lens Surveys


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Introduction

The JVAS (Jodrell Bank-VLA Astrometric Survey) and CLASS (Cosmic Lens All-Sky Survey) have both been designed to study gravitational lenses in order to constrain cosmological parameters. The JVAS is a survey of nearby galaxies that have been discovered through their gravitational lensing effects, while the CLASS is a survey of the entire sky in the optical and infrared wavelengths. Both surveys rely on the detection of microlensing events to measure the mass distribution of dark matter in the Universe.

Cosmological constraints from JVAS...

The JVAS (Jodrell Bank-VLA Astrometric Survey) is a survey of nearby galaxies that have been discovered through their gravitational lensing effects. To date, the JVAS has confirmed several gravitational lens systems and has provided constraints on cosmological parameters such as the Hubble constant and the density of dark matter.

...and optical gravitational lens surveys...

Optical gravitational lens surveys are a powerful tool for studying the distribution of dark matter in the Universe. By detecting microlensing events in distant galaxies, these surveys can place constraints on cosmological parameters and test general relativity.

The future

Gravitational lensing is a rich field of study with many open questions. Future surveys will undoubtedly provide new insights into the nature of dark matter and the structure of the Universe.