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国台学术报告 NAOC COLLOQUIUM

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From gravitational to plasma lensing

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Dr. Xinzhong Er got his PhD from Bonn University in 2010, and spent 4 years in NAOC. After that he worked for Euclid project in Observatory of Roma, INAF. He joined SWIFAR, Yunnan University by the end of 2017. His main research interesting is cosmology, in particular using gravitational lensing to study the dark universe. Recently, he also studies the deflections of radio sources by plasma.

Abstract

The gravitational lensing is a widely used probe in study the dark universe. Besides the gravity, the free electrons in the plasma can also cause deflections of the light. Although plasma lensing has a distinct similarity to gravitational lensing, particularly in its mathematical description, plasma lensing introduces additional features, such as wavelength dependence, diverging deflection etc. I will briefly introduce the basic phenomenon of plasma lensing and the lensing effects, such as the magnification and time delay in the plasma lensing. It shows some potential interesting applications in the study of pulsar, FRB as well as the interstellar and intergalactic medium.

