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国台学术报告 NAOC COLLOQUIUM

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Time: Wednesday 2:30 PM, Oct 21 Location: A601 NAOC

Quasars as dark energy probes

Prof. Bozena Czerny

Center for Theoretical Physics and Copernicus Astronomical Center

Warsaw, Poland

Prof. Bozena Czerny obtained her PhD in 1984 at the Copernicus Astronomical Center, Polish Academy of Scienes, Warsaw. Right after her graudation, she joined the Copernicus Astronomical Center initially as a research associate, then as associate professor, and later as full professor. Between 1984 and 1988, she was also a visiting scientist at Harvard/Smithsonian Center for Astrophysics and University of Leicester, respectively. She has pioneered the research of observational aspects of disk accretion onto supermassive black holes, and is a specialist in black hole astrophysics, accretion processes, structure of active galactic nuclei and cosmology. She has published over 100 refereed papers with a citation about 4000 times. Since 2012 she has served as the scientific editor of the Astrophysical Journal (ApJ).

Abstract

Why quasars are important in cosmology? They are essential ingredients of the Universe, affecting its evolution but they can serve at the same time as tools for studying the Universe structure. I will concentrate on the second aspect. The dark energy, responsible for the accelerated expansion of the Universe is the largest puzzle of the present day cosmology, and quasars can be used as tracers of the expansion rate. Quasars are bright, and easily observed up to large distances, so they can be used as cosmological probes in a similar way as Supernovae Ia. Their advantage is that quasars are numerous, they are persistent sources, and they do not seem to show significant evolution with redshift. The disadvantage is that they are not simple standard candles. I will discuss the proposed methods to go around the last problem, including the project being now done by our group. I will conclude showing the expected progress due to on-going or planned sky surveys.

All are welcome! Tea, coffee, biscuits will be served at 2:15 PM.