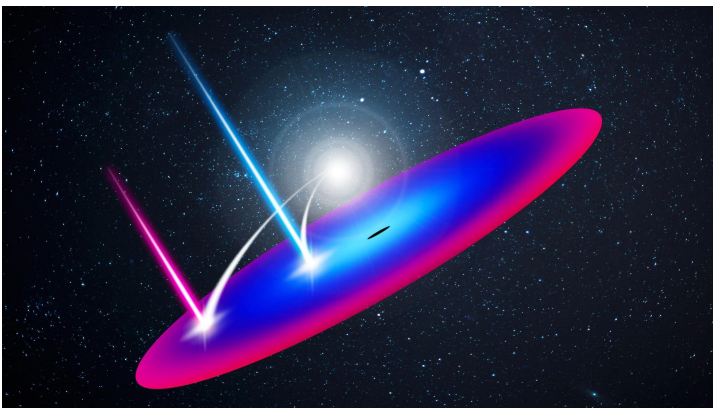


Colloquium

**Dr. Guglielmo MASTROSERIO
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SPECTRAL-TIMING ANALYSIS OF ACCRETING BLACK HOLES - WHAT CAN WE ACHIEVE WITH X-RAY REVERBERATION ANALYSIS?



Abstract

Astrophysical black holes are some of the most extreme and fascinating objects in the universe. However, studying these systems poses difficult challenges since they swallow everything that comes close to them, including light. Fortunately, these objects leave their traces imposing their extreme gravitational pull on the

surrounding matter, while it is falling into the black hole. Combining the analysis of X-ray spectral and timing features produced from the innermost region of accreting black holes allows us to characterize the properties of the black hole, such as its mass and spin, and to infer the geometrical structure of the surrounding matter. I will overview the most recent results derived from the spectral-timing analysis of these systems. In particular, I will focus on the results obtained modeling X-ray reverberation features that have been observed in both supermassive and stellar-mass accreting black holes and on the open questions that we are still facing.

Martedì 18 Aprile 2023 alle ore 15,00
presso l'Auditorium dell'Osservatorio Astronomico di Cagliari
ed in streaming all'indirizzo <https://meet.google.com/ooi-jrid-jqf>