

AGN Physics

Friday 28 October 2022 14:30 (2 hours)

The lecture contains the present status of AGN accretion disc physics and feedback processes from the gravitational radius scale up to the kilo-parsec scale demonstrating how feeding and feedback are working together. Recent results from black hole imaging with the Event Horizon Telescope and gravitational wave detection results will be discussed and prospects for future observations will be worked out.

The outline is as follows:

- 1.The basics
 - 1.1 Definition
 - 1.2.AGN signatures
 - 1.3.AGN types
 - 1.4.Seyfert unification through physical processes
- 2.Nuclear components
 - 2.1 Black Hole signatures
 - 2.2 The standard accretion disc
 - 2.3.Deviations from the standard accretion disc
 - 2.4.The Eddington limit
 - 2.5.Accretion disc line physics
 - 2.6.The efficiency limit
 - 2.7.Models for X-ray variability
 - 2.8.Black hole imaging as GR tests
- 3.Radiation transport
 - 3.1 The transport equation for absorption and emission
 - 3.2.Solving the radiation transport equation
 - 3.3.Physical interpretation of the solution of the transport equation

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Session Classification: School