Physics Colloquium

Tending the Fire: Growing Black Holes through Galaxy Mergers and Gas Accretion

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Wednesday

September 21

4:00 P.M.

Rm 118 NSH

Refreshments
in Rm 202 NSH
@ 3:30 pm

The growth of supermassive black holes in the centers of galaxies remains one of the most important problems in modern astrophysics. Simulations suggest that the turbulent process of merging galaxies powers the black hole growth. In the process of merging, as two galaxies spiral around each other, violent shocks disrupt the structure of the galaxies enabling gas to fall onto the black holes and also heavily obscuring them behind a screen of gas and dust. In the subsequent black hole merger, gravity waves are predicted which can result in a recoiling black hole that leaves the center of the galaxy. While the theoretical model is clear, recent observational studies have provided dramatically different scenarios and contradictory results. I will review recent advances using new instrumentation sensitive in the ultra-hard X-rays that have enabled the detection of emission from these black holes in merging galaxies behind large amounts of obscuring gas and dust.

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