Instituto de Astronomía
Universidad Nacional Autónoma de México
Sede Ensenada, Baja California, México

Seminario

Martes, 14 de Junio de 2011

11:00 hrs, Auditorio IA-Ensenada

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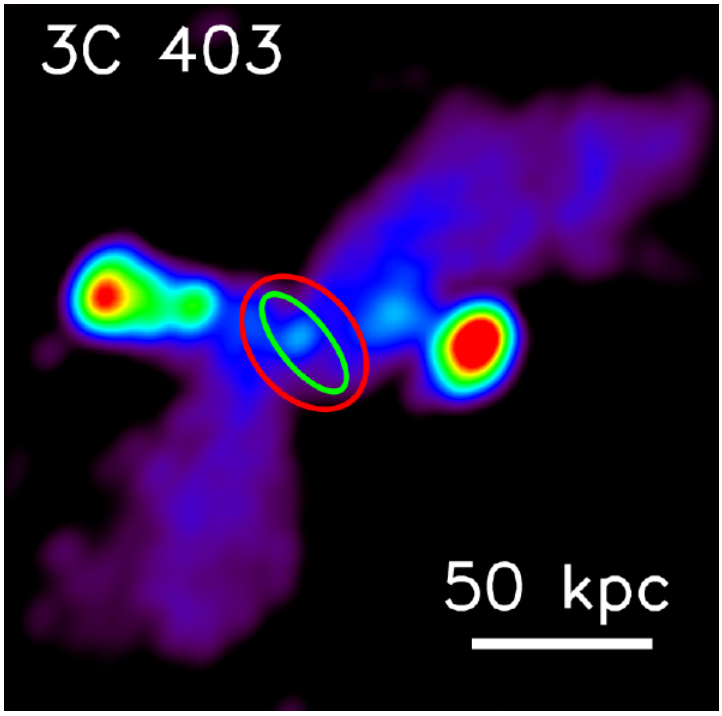
(INAOE)

Black hole masses and starbursts in X-shaped radio sources



It has been suggested that the X-shaped morphology observed in some radio sources can reflect either a recent merger of two supermassive black holes (SMBHs) or the presence of a second active black hole in the galactic nucleus. These scenarios are tested by studying the relationship between the black hole mass, radio and optical luminosity, starburst history, and dynamic age of radio lobes in a sample of 38 X-shaped radio galaxies drawn from a list of 100 X-shaped radio source candidates identified from the FIRST survey. The same relationships are also studied in a control sample consisting of 36 radio-loud active nuclei with similar redshifts and optical and radio luminosities. The X-shaped objects are found to have statistically higher black hole masses and older starburst activity compared with the objects from the control sample. Implications of these findings are discussed for the black hole merger scenario and for the potential presence of active secondary black holes in post-merger galaxies.