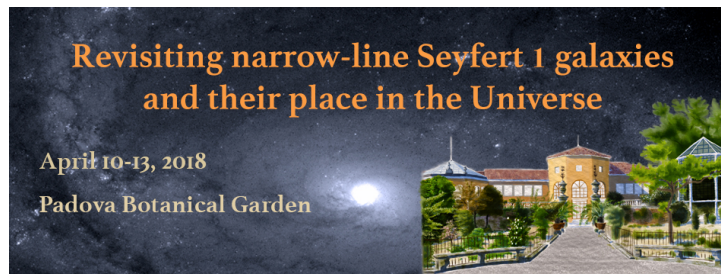


Revisiting narrow-line Seyfert 1 galaxies and their place in the Universe



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Fe II reverberation in narrow-line Seyfert 1 galaxies

Tuesday, 10 April 2018 12:00 (20 minutes)

We present new results on the variability of the optical Fe II emission lines in 10 NLS1s observed by the Yunnan Observatory 2.4m telescope during 2012–2013. We detect statistically significant time lags, relative to the AGN continuum, in nine of the sources. This accurate measurement is achieved by using a sophisticated spectral fitting scheme that allows for apparent flux variations of the host galaxy, and several narrow lines, due to the changing observing conditions. Six of the newly detected lags are indistinguishable from the Hbeta lags measured in the same sources. Two are significantly longer and one is slightly shorter. Combining with Fe II lags reported in previous studies, we find a Fe II radius–luminosity relationship similar to the one for Hbeta, although our sample by itself shows no clear correlation. The results support the idea that Fe II emission lines originate in photoionized gas which, for the majority of the newly reported objects, is indistinguishable from the Hbeta-emitting gas. We also present a tentative correlation between the lag and intensity of Fe II and Hbeta and comment on its possible origin.

Motivation

Grant

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