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Optical emission line properties of some little-known Narrow Line Seyfert 1 galaxies

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We analyse medium resolution optical spectra of six Active Galactic Nuclei (AGN), with strong iron emission spectra and characteristics associated with the class referred to as Narrow-Line Seyfert 1 (NLS1) galaxies. These were observed using the 1.9 m telescope at the South African Astronomical Observatory in Sutherland. The objects are among the brighter sources of that description accessible from the southern hemisphere: Fairall 265, NPM1G −15.0297, CTS J03.19, EUVE 0414−596, A 644-1, and HE 2116−3609. For each target we performed multiple integrations totalling between 1 and 2.5 hours, yielding spectra in the range ∼ 3700-6000 A with relatively high signal-to-noise ratios. This enabled us to locate multiple spectral emission features, including the strong Fe II bands in the range 4000-5400 A as well as other prominent emission lines associated with the Balmer series, Helium and the [O III] nebular doublet. Our measurements include the flux, the width and peak wavelength shifts of the lines, which sometimes displayed multiple components. We describe the properties of our sample, compare these to other representatives of the NLS1 class and interpret their physical mechanism in the context of AGN theory.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

PhD

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