

# Is there a binary supermassive black hole system in J1430+2303?

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The growth of supermassive black holes (SMBHs) through merging has long been predicted but its detection remains elusive. However, a promising target has been discovered in the Seyfert-1 galaxy J1430+2303. If a binary system truly lies at the center of J1430+2303, the usual symmetry expected from pole-on views in active galactic nuclei (AGNs) responsible for the observed low ( $\leq 1\%$ ) optical linear polarization in the continuum of these objects is expected to be broken. This should lead to higher-than-usual polarization degrees, together with time-dependent variations of the polarization signal. In this presentation, I will show the observations taken with the specialized photopolarimeters RoboPol mounted on the 1.3m telescope at the Skinakas Observatory and the Alhambra Faint Object Spectrograph and Camera (ALFOSC) mounted on the 2.56m Nordic Optical Telescope (NOT) at the "Roque de los Muchachos" Observatory that allowed B-, V-, R-, and I-band polarization measurements of J1430+2303. Observations were complemented using the FORS2 spectropolarimeter mounted on the VLT to acquire 3500 -- 8650 Angs polarized spectra. Observations were compared to Monte Carlo radiative-transfer predictions to look for the presence of a SMBH binary.