

## **Polarization in broad lines of SMBHBs**

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Massive galaxies are expected to host a supermassive black hole (SMBH) situated in the center. Because of the difficulty in explaining the extreme signatures in the optical spectra such as high variability and very broad double peak Balmer lines, exotic models such as close supermassive binary black holes (SMBBHs) have been proposed. To test such hypotheses, we rely on numerical modeling of the polarimetry of binary black holes systems since polarimetry is highly sensitive to geometry. We model broad line emission with the assumption that polarization comes predominantly due to scattering. We applied full 3D radiative transfer with polarization using a publicly available code STOKES. Our preliminary results have shown that polarization position angle has a unique signature across the line profile that could be used in the search for SMBBH candidates.