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### **Polarimetry of GSN 069: the source of the quasi-periodic eruptions**

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GSN 069 is a high Eddington-ratio Seyfert galaxy that exhibits an unabsorbed highly variable X-ray spectrum typical of a Seyfert 1, but it does not show broad emission lines in its optical spectrum, which leads to a Seyfert 2 classification. It could be then considered as a true Seyfert 2 candidate. Those candidates are thought to accrete at low Eddington rates, unable to sustain the broad line region (BLR). Nevertheless, GSN 069 exceeds the theoretical accretion rate at which a BLR is formed.

On the other hand, since December 2018 and during 54 days, GSN 069 has exhibited a new X-ray variability pattern characterized by high-amplitude quasi-periodic X-ray bursts over a rather stable quiescent flux level. This new phenomenon has been dubbed X-ray quasi-periodic eruptions (QPEs) (Miniutti et al. 2019, Nature, 573, 318). Since its discovery with GSN 069, QPEs have been identified in a very few sources and their driving mechanism remains unknown. In the specific case of GSN 069, some models point to a possible tidal disruption event (TDE) as possible origin of the exhibited QPEs, but more observational efforts are needed for a better understanding.

Polarimetry is the only technique capable of demonstrating the existence of hidden-BLRs. It has also been demonstrated that the degree of polarization is sensitive to TDEs (Wiersema et al. 2020, MNRAS, 491, 1771). Thus, in this work we report imaging polarimetry and spectropolarimetry of GSN 069 with FORS2@VLT to explore both scenarios, the true Seyfert 2 candidacy and the possibility of a TDE in GSN 069.

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