**Introduction**

The combination of imaging and polarimetric capabilities over a $\sim 8$ arcmin Field of View will allow the Imaging X-ray Polarimetry Explorer (IXPE) to investigate the polarization properties of complex fields and extended sources by means of position- and energy-dependent polarization maps that will clarify the emission processes and the role of the magnetic field structure on the acceleration process in the X-ray emitting region [6].

The SgrB2 Molecular Cloud near the Galactic center is one of the most representative targets, being faint, extended and in a crowded field. The interest in the observation of the molecular Clouds in the Galactic center lies in the opportunity to investigate the past activity of Sgr A*.

**Results**

- **Polarization degree and angle consistent with the ones expected from [3]**
- **The plasma “bubble” in which the reflection-nebulae such as SgrB2 is embedded reduces the polarization signal by 20%**.
- **We find that the observation is source dominated**: by increasing the flux of the instrumental background, the polarization signal deteriorates at an instrumental background flux $\sim 1$ mCrab (2.0e-11 ergs/cm$^2$/s), i.e. four times higher than the baseline value.
- **A few Ms mapping the molecular clouds are sufficient to investigate the past activity of Sgr A*”**.
- **Since SgrB2 is dimming, by the time IXPE launches other molecular clouds for which these results still stand, such as SgrC or “the Bridge”, may be selected for observation instead.**

**Contacts and References**

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