



Contribution ID: 455

Type: **Poster Presentation**

Looking for axion decay around a black hole

In this work, we aim to compute the radio flux from the decay of axions close to Sagittarius A, *the supermassive black hole at the center of our galaxy*. *These particles can undergo stimulated decay in the presence of photons with energies of half the axion mass*. We make use of an observed spectrum for Sgr A emission in the frequency range of SKA and the VLBA, to find the effect of stimulated decay on a range of axion masses. We also follow recent studies that indicate the existence of a dark matter spike near the black hole to boost the observed flux. These quantities are used in the computation of the predicted axion flux and in obtaining limits on the axion coupling as a function of axion mass that would result from a non-observation of an axion line via VLBI.

Apply for student award at which level:

PhD

Consent on use of personal information: Abstract Submission

Yes, I ACCEPT

Primary author: BECK, Geoff (University of the Witwatersrand)**Co-author:** MAKDA, Javeria (PhD Student - Wits University)**Presenter:** MAKDA, Javeria (PhD Student - Wits University)**Session Classification:** Poster Session**Track Classification:** Track D1 - Astrophysics