

ABSTRACT ONLY

STELLAR WINDS IN THE GALACTIC
CENTRE: VARIABLE ACCRETION AND
FORMATION OF A DISC

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Sgr A*, located only 8 kpc away, allows us to study in detail the accretion process on to a supermassive black hole. Only in our Galactic centre we can directly observe the source of the material feeding the accretion, which in this case corresponds to around 25 young, massive stars, with powerful stellar winds. We describe our hydrodynamical models of the gas surrounding Sgr A*, originating from the observed stars, with known orbits and stellar wind properties. Our simulations show that these winds and their collisions can naturally account for the properties of the hot plasma detected in X-ray observations. Moreover, the complex interaction of the winds with the medium produces cold clumps and streams, and perhaps even a disc around the black hole, as inferred from ALMA observations. Finally, the stellar orbits and the infall of streams make the accretion vary on time-scales of decades to millennia, potentially explaining the observed X-ray echoes related to past activity from Sgr A*.

For more details please see <https://doi.org/10.3847/2041-8213/ab5e81>.

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