

# Thermal and Non-thermal Processes in the Evolution and Structure Formation in the Center of the Milky Way

Monday, 6 May 2024 17:21 (2 minutes)

Studying the physics of the interstellar medium in the center of galaxies, specifically the center of the Milky Way, is vital to address the impact of supermassive black holes on their host galaxies. This kind of study has been a prominent topic in field of astronomy from the past until now. In this investigation, by using a novel method, we separate the thermal and non-thermal components of radio continuum (RC) emission at 1.3 GHz frequency at the center of the Milky-Way and then we study the role of magnetic fields in structure formation and evolution, molecular clouds and star formation in the central molecular zone. We conclude that at the center of the Galaxy, the magnetic field has a substantial role in the structure formation and star formation activity.

## keywords

Galactic Center, ISM, Thermal and Non-thermal, Magnetic Field, structure formation

## In-person or online?

unsure

## Career level

Student

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**Session Classification:** Poster Sparklers