

# FAST Proposal Coverpage

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## **Project Name:**

Constraining annihilating dark matter by radio data of A262 cluster

## **Project Summary:**

Radio observation is a very good way to constrain annihilating dark matter. Since dark matter annihilation can produce a large amount of high-energy electrons and positrons, the synchrotron radiation produced from these electrons and positrons can be easily detected by radio telescopes. Some previous studies have provided stringent lower limits of dark matter mass using the radio data of nearby galaxies. In this project, we propose to observe new radio data of a galaxy cluster A262. We have developed some new methods to observe and analyse the radio data of galaxy clusters and we expect that the lower limit of dark matter mass can be improved to  $\sim 500$  GeV using the FAST telescope.