Proca seminars series



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Detecting dark matter signals by radio observational data

Thursday 11 November 2021 10:00 (1h 30m)

Abstract: In the past few years, some studies claimed that annihilating dark matter with mass 30-50 GeV can explain the GeV gamma-ray excess in our Galaxy and the gamma-ray spectrum of some other sources. In this talk, we present our latest analysis using the radio continuum spectral data of the central halo of the Ophiuchus cluster and the radio halo of the A4038 cluster. We have found that 40-50 GeV dark matter annihilating via the b quark channel can best explain the radio continuum spectral data of the data. The statistical significance can be larger than 6 sigma, which indicates a very strong signal of dark matter annihilation.

Presenter: Dr CHAN, Man Ho (Education University of Hong Kong)