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Molecular-line and gamma-ray studies toward SNR G35.6-0.4

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SNR G35.6-0.4 shows complex components in the radio bands and partially overlaps in space with an unidentified TeV source HESS J1858+020. In this study, we reanalyze CO, HI, and Fermi data toward SNR G35.6-0.4 region. The results obtained from the CO and HI data suggest that SNR G35.6-0.4 and HII region G35.6-0.5 locate at different distances. Based on the Fermi data, a GeV source (SrcB) is found to be spatially coincident with both HESS J1858+020 and HII region G35.6-0.5. The spectra of SrcB and HESS J1858+020 can be smoothly connected by a Power-law function with a hard index of ˜2.2. Our results may imply that HII regions (or star-forming regions) are the potential PeVatrons.

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