

# Identifying the origin of HESS J1858+020

S. Paron<sup>1</sup> , E. Giacani<sup>1</sup> , G. Dubner<sup>1</sup>

<sup>1</sup> *Instituto de Astronomía y Física del Espacio, Buenos Aires, Argentina*

## Abstract

HESS J1858+020 is a weak  $\gamma$ -ray source close to the southern border of the SNR G35.6-0.4. From public molecular data we found that towards the south of the SNR appears a molecular cloud likely composed by two dense clumps. Using the Atacama Submillimeter Telescope Experiment (ASTE, Chile) we inspected the region with higher resolution and sensitivity. These observations confirmed, through the detection of  $^{12}\text{CO}$  and  $^{13}\text{CO}$  J=3–2 lines, that one of the mentioned clumps lies exactly at the HESS source center. The obtained molecular density for this clump,  $\sim 10^4 \text{ cm}^{-3}$ , can explain the origin of the very high energy emission through hadronic processes.