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Modelling the high energy gamma-ray component of the nearest radio galaxy, Centaurus A

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The closest known active galaxy is Centaurus A (Cen A) at a distance of 3.8 Mpc. Due to its proximity, Cen A has been observed over a wide range of energy bands. These extensive observations enabled various astrophysical phenomena associated with active galaxies to be studied in great detail. Cen A has recently been observed by H.E.S.S. and Fermi-LAT in gamma-rays. In describing the spectral energy distribution (SED) of the core of Cen A, as observed by these two instruments, it became evident that there is a need for going beyond a single-zone synchrotron self-Compton (SSC) description of the gamma-ray emission. We consider here modelling the high-energy SED in Cen A with the appearance of a second gamma-ray emission component due to gamma-gamma absorption.

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