POSSIBLE IMPLICATIONS OF VHE $\gamma$-RADIATION FROM THE X-RAY BINARY CENTAURUS X-3

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We discuss different theoretical models that could explain self-consistently the existing data from observations of Cen X-3 in high energy ($E \geq 100$ MeV) and very high energy ($E \geq 100$ GeV) $\gamma$-rays. Based on the energetics required all reasonable options for $\gamma$-ray production in Cen X-3 are connected with jets emerging from the inner accretion disc around the neutron star. A large-scale source could explain the bulk of $\gamma$-radiation features, except for the modulation of the $\gamma$-ray signal with the pulsar spin. These modulations, if genuine, would require an alternative source with dimension $\ll 10^{11}$ cm. We consider two principal models, hadronic and leptonic, for formation of such a compact source in the jet.