

Extended Non-Thermal Emission Possibly Associated with Cyg OB2 #5

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Cyg OB2 #5 is a contact binary system (O6.5-7+O5.5-6) with associated radio continuum emission. Two compact ($\leq 0.3''$) radio continuum components have been reported previously: the primary one is associated with the contact binary and the secondary one is an arc-like source $0.8''$ to the NE of the primary. This arc-like source results from the interaction of the winds of the contact binary and a B-type star in the region. In this paper we report the detection of an extended (about $30''$), non-thermal component to the NE of the compact components. We propose that this extended emission could be an unresolved background source (i. e. a radio galaxy), extended galactic emission, or non-thermal emission related with relativistic electrons that are produced in the shock between the contact binary and the B-type star and that are carried away to large distances by the wind from the contact binary.

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