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Origin of Emission in TeV J2032+4130 object of unresolved nature

Cygnus Region contains many objects that are bright in all wavelengths, including one of the most powerful active star formation regions: Cyg OB2, pulsars, and supernova remnants. Some of the sources have been detected at high and very high energies. One of them was discovered due to the proximity to the well-known microquasar Cyg X-3 is TeV J2032+4130 object. This object is still of unresolved nature and is being intensively studied in the different energy ranges. The numerous X-ray point sources and diffuse X-ray emission regions were found within the TeV J2032+4130 region by Chandra and Suzaku. Intensities detected in X-rays from these regions may favor a scenario with the dominantly nucleonic, not electronic origin of TeV emission. The results of the twenty-year observation of the TeV J2032+4130 object by the SHALON experiment are presented. The collected experimental data on fluxes, spectrum shape, and morphology of TeV J2032+413 can help to determine the object's nature.

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