

ORIGIN OF THE COSMIC RAYS

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Abstract

Attempts at answering this problem often ignore that (1) their highest-energy 'tail' - above ion energies of 10^{19} eV - is locally rare but involves some $10^{-2.5}$ of the power L injected by the sources, even some $10^{-1.5} L$ if the latter are extragalactic; those engines providing the 'tail' are likely to provide the whole spectrum; and (2) the cosmic rays are strongly deficient in hydrogen and helium, i.e. involve processed material. I shall update my earlier claim (1976, 1993) that the likely sources are nearby Galactic neutron stars.