



Cosmic rays and their interaction with astrospheres

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The Kepler discoveries of terrestrial extrasolar planets candidates started the discussions of life conditions and possible conditions for habitable zone. Unfortunately star winds and cosmic rays were almost omitted in consideration despite the fact that they are one of the main factors defining the space weather near Earth. Previously we made estimations of the star wind properties and star and galactic cosmic rays near Proxima Centauri and Proxima b. The simple models, which were derived for the Sun in 1950th–1960th, give the reasonable results for the star wind parameters and conditions on the orbit of Proxima b. We generalize these models for different astrospheres including hot O-B and A stars to estimate the possible star wind fluxes, astrosphere parameters and cosmic rays' fluxes and fluences taking into account values of the magnetic fields, coronal temperatures etc. Obtained results will be compared with Earth's and Archean Earth's conditions.