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Interpretation of the cosmic ray positron and anti−proton fluxes

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In this work we discuss possible interpretations ofthe measurements of fluxes of positrons and antiproton in cosmic rays.We underline the interest of studying the ratios of the fluxesfor different particles.It is remarkable that the observed positron/antiproton ratio is consistent with the theoretical expectations (both in the spectral shape and in the relative normalization)of the ratio at production,when the injection of both particles is due to the conventional mechanism.This has to be contrasted with an electron/proton ratiothat falls rapidly with energy.We discuss possible interpretations of these results,and possible methods to establish the correct explanation.The solution of this problem is of central importancefor astroparticle physics.

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