# Proton Flux Prediction Model At Earth Environment To E > 10 MEV

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One improvement of the 1989 proton flux intensity prediction model is presented with the inclusion of new input variables: The parameters of the "Solar Wind", like an approximation of the state of the interplanetary media by which propagate and interactuate the solar mass ejection as well as the proton flux emitted.

87 proton events were analyzed and identified with the flares in the visible disk of the Sun. They have the maximum intensity of the proton flux observed at the Earth with energy: E>10 MeV, and with intensity J10 > 1-5 cm-2 s-1 sr -1.

With the multiple regressions method by steps with variance analysis, the relationships of the proton flux intensity were obtained with:

The radioemisión maximum intensity of the solar event at the frequencies 7Ghz, 9Ghz and 15 GHz,

The heliolongitud “θ", for the whole Sun visible hemisphere θ ª[-90,90],

The quotients of the radioemisión intensities like radiospectra parameters,

The density and speed of the "Solar Wind", as well as

The values of the magnetic field ecliptic components and their modules.

The obtained approximations for the proton flux intensity is better than that of the 1989 model, by the biggest value in the obtained correlation coefficient (0.87-0.97), and also by the 30 - 50% smaller value of the standard error of the adjustments, in relation to the adjustments without the new parameters.

A discussion of the terms determined in the relationships is presented. In particular:

A positive dependence with the SW density is explained by the more interaction of the shock wave with a dense media, and

A negative dependence with the SW velocity is explained by the minor interaction of the shock wave with the media, because a minor velocity difference between shock wave and SW at SW high velocity take place.