

COMMENT ON GALACTIC COSMIC RADIATION DOSE TO AIRCREWS

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The possible effect of cosmic ray induce radiation dose on airplane crews is a subject of current study in a number of countries. The amount of radiation dose received by aircrews due to cosmic radiation is a function of (1) altitude above the surface of the earth, (2) the geomagnetic cutoff rigidity, and (3) the solar activity cycle. The cosmic ray spectrum through the solar cycle can be specified by the cosmic ray modulation parameter. Calculation of the geomagnetic cutoff rigidity and the cosmic ray induced radiation dose at altitude are both difficult. Of these three variables, the cosmic radiation variation with altitude has the largest variability. This paper discusses the variables controlling the cosmic ray flux in the atmosphere and describes models and software that have been developed that provide quantitative information about the cosmic radiation exposure at flight altitudes.