

COPLANAR EMISSION IN GAMMA RAY FAMILIES, GEOMETRICAL AND DYNAMICAL COINCIDENCE OR NEW MECHANISM?

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The remarkable event JF2af2 observed near 10^7 GeV in the emulsion chamber embarked on the Concorde shows a perfect alignment of the most energetic gamma's on the X-ray film. To investigate the origin of this phenomenon which indicates a coplanar emission, we have simulated some samples of stratospheric gamma ray families with CORSIKA code and different interaction models. Events with such common features are selected by a simple least square method. The dependance of this phenomenon on favourable geometrical circumstances (a very large transverse momentum for one very energetic secondary near the vertical plane and a large zenith angle) is investigated. The Concorde event (52° of inclination) may enter in this category (with a typical gap between the main clusters). Simulations are also carried out at Pamir altitude where such mechanism would give a probability rising with zenith angle.