DIFFRACTION, SEMI-INCLUSIVE REACTIONS AND CONSEQUENCES FOR BACKGROUND IN GAMMA RAY ASTRONOMY

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The estimation of the cosmic ray background is crucial for ground-based gamma ray astronomy. For VHE gamma-rays (100 GeV-10 TeV), it is generally admitted that the ratio of the gamma Cerenkov radiation and the proton one's is about 3. However, this is only true on average and for fixed promary energies. The study of the electromagnetic component, taking into account the steepness of the primary spectrum, for fixed primary multiplicities (semi-inclusive reactions) and for diffractive collisions gives us more realistic clues on the cosmic ray background.