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Over-abundant gamma-like signals around Solar disk by smeared and bent electron pairs spiral secondaries feeding TeV gamma by ICS

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The Sun is a target of cosmic rays , CR. Their secondary photons by such CR skimming on solar edges, while scattering solar atmosphere and making neutral pions , is one of the expected and partially observed signal. However there are discrepancies in the gamma spectra within the the Sun disk that are not well understood. We first are reconsidering the role of such skimming and scattering CR on solar atmosphere, at tens TeV , ejecting secondaries TeV neutral pions and their photons that are more penetrating and shining to Earth via a thin external corona layer. We show that this ring is too narrow to account the observed data. Also an additional wider ring , formed by more penetrating muon secondaries, is not much effective. We therefore evalueted the energetic tens TeV skimming CR on the solar limb and their relativistic bent scattered proton-proton charged secondaries. The pions and their later decayed muon and final electron pairs are considered in solar fields. The energetic electrons pair secondaries may survive in long life spirals around solar magnetic field lines, offering a key role to amplify gamma radiation by ICS on surface solar lights. This effect could be a main final photon signals, able to explain the observed overabundance of gamma HAWC events at solar limb edges. Other photon-like secondaries could be the survived TeV electron pairs in direct flight to Earth. Disentangling the different gamma signatures is possible and described in present study.

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