NEGATIVE EXCESS IN THE ELECTROMAGETIC COMPONENT OF GAS AND THE RADIO EMISSION

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Simulations of shower development using CORSIKA v.5.62 code for primary proton and iron nuclei from 10^5 GeV up to 10^8 GeV had been performed. About 20% negative charge excess in the electromagnetic component of shower had been found, confirming earlier theoretical predictions. The net negative charge (occuring mainly as a result of positron annihilation) might produce coherent Cherenkov radio emission. Possibilities of detection of radio signals from UHE showers are discussed.