One of the goals of the paper was to discuss the origination of enhanced particle fluxes during thunderstorms, including particle “bursts” ( DTGF).  Sure, one of the scenarios, although not well formulated and explained is the lightning activity, we also discuss other scenarios, including corona discharge suggested by Maribeth and Thomas (I wrote already 2 reviews to GRL). The possible relationship between TGE, TGF, DTGF, and EAS propagation, radio-emission from lightning flashes, corona discharges, was discussed, based on data from small detectors operated inside 3 large particle arrays.  The most natural and simple explanation of particle “bursts” is the EAS core particles occasionally hitting a small size particle detector (already prooved by Aragats and HAWK), without any relation to lightning. We also suggest ways to prove the Utah scenario (compare expected numerous EAS originated bursts, and lightning originated bursts) and Corona discharge scenario (explain how the corona discharges can provide uniform 2 MV/cm field above large areas and inside buildings).

As you know, I haven't  "deep" knowledge of lightning physics. However, for many years we monitor enhanced particle fluxes and lightning discharges simultaneously. We have a continuous 1-second database containing detailed information on lightning flashes NS electric fields, different particle fluxes count rates, and energy spectra for many years. We have a nice collection of more than 100 TGEs abruptly terminated by lightning flashes. We even made an analysis of the lightning types terminated by different types of flashes, see the nice collection made by Suren in the  Mendeley database. Based on this bulk of information we see that during enhanced particle fluxes (up to several minutes) lightning activity is suppressed, and lightning stopped the particle flux, then after field recovery, particle flux restarts, and so on several times. Thus, lightning flashes never originate particle fluxes, but stop it! Another proof is in your and Suren’s paper: the flashes started as inverted intracloud (-IC) and continued as cloud-ground. Together with your  & NAG paper on LPCR emergence and contracting (providing my first real understanding of LPCR), hybrid type of lightning flashes confirms that particle flux enhancement is due to the mature LPCR that prevents lightning leader to reach the ground. Only after decaying the LPCR, the leader makes its path to the ground (-CG).