



## **Unusual bright TGF from low cloud tops over the Mediterranean sea**

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The Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) is an X- and gamma ray detector which is used to identify Terrestrial Gamma ray Flashes (TGFs). We recently developed a new search algorithm for identifying TGFs in the RHESSI data. This new algorithm is capable of identifying more events than in the existing RHESSI TGF catalog. As a result we have identified, three TGFs occurring over the Mediterranean sea. These three TGFs have spectral and temporal properties which are similar to typical TGFs. In addition, we have meteorological data and lightning locations from the World Wide Lightning Location Network (WWLLN) for the TGF producing thunderstorms. All three TGFs were produced in thunderstorms with cloud tops less than  $\sim 10$  km altitude, which is lower than the typical TGF production altitude (15 km). One of the Mediterranean TGFs is among the 1% brightest TGFs ever measured by RHESSI. Because of the very low production altitude we suggest that this TGF must be very bright at its source.