

Evaluation of detection techniques of sprites based on infrasound signals measured in Equatorial Africa

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It has been verified that sprites generate infrasound (0.1 – 10 Hz) that can be measured at more than 1000 km distance from the source. This allows detection of sprites also during the day where optical observations fail. In addition, the infrasound signature may allow automated sprite detection using the network of infrasound sensors of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) Verification Programme. The technical objective of the project is to assess detection techniques based on infrasound signals from sprites by testing them with the infrasound data obtained during the Sprite2003 campaign. The scientific objective is to study sprites over Equatorial Africa with data from a CTBT sensor in Cote d'Ivoire. Although this region is the most active thunderstorm region on the Earth, it is poorly explored because of difficulties placed on ground observations with cameras.