Subjective comparison by forecasters didn't show any qualitative difference during operational period.

The LINET is able to detect more strokes/flashes than the CEL DN (about 1.3x more of CG- and CG+ lightning).

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V. References


Strokes were grouped into flashes (max. 10km range, max. 1s total duration, max. 500ms between anode-cathode gaps at max.) and several new sensors installed in Czech Republic, Poland, Slovakia and Hungary.

Vladimír References


Both CELDN and LINET lightning data are useful additional remote sensing information for convective storms nowcasting and warning.

Subjective comparison by forecasters didn't show any qualitative difference during operational period. The LINET detects more lightning strokes but significant earlier detection or exclusive detection of some weaker storms were not observed. Detection of convective storms is done primarily by weather radars.

The LINET is able to detect more strokes/flashes than the CELDN (about 1.3x more of CG- and about 3x more of CG+ and IC) over the Czech Republic territory. The LINET has higher detection efficiency mainly for weak strokes with peak current below 10kA.

Amount of CG+ lightning detected by the LINET is suspiciously high (about 40% of all CG lightning). Probably explanation is that the LINET CG/IC discrimination identifies some of the IC lightning as a CG+.

Spatial distribution of CG lightning is very similar for both networks. Spatial distribution of IC lightning is much more different, which is obviously caused by the inhomogeneous CELDN network (older sensors without IC detection capability).

Comparison of daily amounts of CG flashes detected by the CELDN and LINET network over the Czech Republic in period May-September 2010.

Comparison of daily amounts of IC flashes detected by the CELDN and LINET network over the Czech Republic in period May-September 2010.

Coalition of CELDN (left) and LINET (right) lightning data (2010) with Czech weather radar composite image in the vicinity of SYNOP stations. Probable explanation is that the CELDN/LINET ratios of CG- and CG+ lightning.

V. References


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