

## The total energy consumption in the emission region of sprites

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We observed lightning-induced transient optical emissions in the middle atmosphere called sprites by two multi-anode array photometers (MAPs) with red (560-800 nm) and blue (380-500 nm) filters respectively in Colorado during the SPRITES '98 and '99 campaign. Using the observed data we estimated the altitude profiles of luminous intensities for the red emission (mostly N21P and N2+M) and the blue emission (mostly N2 2P and N2 +1N). Then we estimated the energies of electrons inducing sprites from blue/red ratios. Further, using the obtained electron energies we inferred the total energy consumed in the emission region of sprites.

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