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Autumn - diurnal variation of lightning over Black Sea and Bulgaria

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Studies of the global distribution of lightning show that the annual number of lightning over land is higher than over the sea. However some research reveals that lightning activity is different over various geographical locations and highly variable on timescales (annual, seasonal, monthly and daily). It is of interest to analyze the spatial and temporal distribution of lightning for specific geographical areas with different surfaces: land and sea. According to the results of our previous work summer-time flash density for each of the analyzed years (from 2005 to 2014) is higher over Bulgaria than over the Black Sea, while diurnal variation of flash density shows that during the night and morning hours lightning activity is higher over the Black Sea. The aim of present work is to analyze the land-sea contrast in the lightning activity over Bulgaria and the Black Sea in the autumn. The lightning data during autumn period (September, October and November) for 10 years will be used. Data for the time and the position of lightning are provided by the ZEUS network (operating at the National Observatory of Athens - NOA). The work will reveal for the **autumn** period: i) the difference in monthly and diurnal variations of flash density over land (Bulgaria) and over maritime area (Black Sea), ii) locations and moments with maximum lightning activity over the studied areas.

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