Feasibility study for artificial aurora experiments at the EISACT Tromso site

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We report a brief survey on conditions for artificial aurora optical experiments in *F* region heating with O-mode at the EISCAT Tromso site using dynasonde data from 2000 to 2017. The results obtained in our survey indicate the following: The possible conditions for conducting artificial aurora experiments are concentrated in twilight hours in both evening and morning, compared with late-night hours; the possible conditions appear in fall, winter, and spring, while there is no chance in summer, and the month-to-month variation among fall, winter, and spring is not clear. The year-to-year variation is well correlated with the solar cycle, and experiments during the solar minimum would be almost hopeless. These findings are useful for planning future artificial aurora optical experiments.