



## **The ability to activate the local substorm-like events by powerful HF SURA heater**

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The results of analysis of helio-geophysical conditions of experiments 2007-2010 on local modification of ionosphere by powerful HF radio waves of SURA facility are presented. All experiment were conducted at sector of local time of Harang discontinuity for most probable influence of powerful HF pumping during the heater functioning on activation of natural processes at subauroral ionosphere - magnetosphere region.

The peculiarity of these experiments was that all of these were executed with use of operative frequency, which was higher than upper hybrid frequency for background plasma of  $F_2$ -layer maximum. It was obtained that, at least, in two experiments the observed substorm activity in zone northern SURA heater could be stimulated by its functioning.

It is shown that results of groundbased, International Space Station and satellite DEMETER measurements as in vicinity a SURA location and in magnetic conjugated region support the conclusion (output) about reasons and possibility of substorm localization by action of SURA heater. The possible mechanisms of the local substorm activation are discussed.