

## Modification of Ionosphere before Large Earthquakes- Report of Ionosphere Precursor Study Task Group

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The current status of ionospheric precursors associated with large earthquakes (EQs) is summarized in this paper as an outcome of a joint endeavor of the "Ionosphere Precursor Study Task Group," which was formed with the support of the Mitsubishi Foundation in 2014-2015. The group aims to promote the study of ionosphere precursors to EQs by trying to provide new findings, to prepare for a future EQ-dedicated satellite constellation, which is essentially needed to study the global morphology of ionosphere precursors, and to determine whether short term EQ prediction is possible. The first part of the manuscript reviews the ionosphere precursors that have been reported previously. Problems and specific research subjects that have become clearer from our one-year project are described. Satellite missions that are planned or are going to be launched soon for EQ studies are briefly described in the final part of the manuscript.

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