

## 2fp Radiation in GEOTAIL Observations and Numerical Simulations

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We present a summary of our study on 2fp radiation generated in the Earth's electron foreshock through spacecraft observations and numerical simulations.

Observational features on the 2fp radio source is as follows: (a)The 2fp radio source seems to have a hole around the bow shock. (b)The 2fp radiation is positively correlated to the solar wind kinetic energy flux. (c)The foreshock activity is also correlated to the IMF direction, not as same manner as the observations around Venus.

We also investigate numerical simulations. In 2-D periodic systems, we also find electromagnetic 2fp waves in various conditions. We will summarize the generation mechanism of electromagnetic 2fp suggested in our study.