

Development of a transportable Jovian radio receiving system for high-school science and results of the field test

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We propose transportable observation system for Jovian radiation in high school education.

Observing Jovian radio waves would interest to high school students and be attractive scientific experiment-teaching material. In this study, we propose Jovian S-bursts observation system that is easy to use in high school education. When it's used near urban area, the artificial noise would be received and be confused with Jovian radiation. Therefore the system must be transportable and battery-powered. For getting the data to unveil the mechanism for Jovian S-bursts in the future, the time resolution of the receiver must be enough, milliseconds. Hence we will develop it and consider in the following points, (a) the transportability, (b) the battery-powered ability, (c) the cost, (d) sensitivity, (e) the range of received frequency, and (f) the time resolution.

Radio JOVE receiver provided by NASA Radio JOVE project (<http://radiojove.gsfc.nasa.gov>) and 1 seg TV tuner USB device managed by Software Defined Radio have some potential as the receiver of the observation system.

Jupiter is the opposition with Sun in May 2018. In this presentation, we will explain the field test results which tested at Zao Observatory, Tohoku University.