

Ham Radio Observation in Tokushima

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1 Introduction

From 1999, ham radio observation of meteor (HRO) was started by Astrolabe of the University of Tokushima. Many researches and developments have been made in order to gather the reliable data for long time.

We tried to install the antenna for HRO on the roof of the building of the University. However, it was impossible to continue HRO here without any noise, because there were broadcasting antenna (radio and television) and communication antenna (mobile phones). Thus, we moved to Nakagawa town, which is placed 20km south from Tokushima city and finally we successfully started to continuous observation.

Since the observation site is far from the University, the acquired data were sent through internet protocol. We developed an application to correct the clock of PC in order to keep the accuracy of the data.

2 Development for continuous observation

The maintenance of clock of PC and PC itself was needed in order to make continuous and static operation of HRO. We have developed the application which corrects the clock of PC and we maintained the PC.

The clock of PC often gets wrong due to the load by many tasks. The clock easily slows a few seconds to a few tens seconds a day. We have developed an application named 'SYNC-rou' which sets the clock of PC. This system consists of the application of PC (Win XP) and precision radio-clock. It has worked once a day and precise observation is now continued.

3 Repair and improvement of antenna

We have many typhoons in the summer in Tokushima. Moreover, the typhoons pass over Tokushima before they get weaker. We repaired and reinforced the antenna before 2004 summer. However, many strong typhoons passed in 2004 summer. Most of all, the typhoon 23 was enough strong to break the reinforced antenna. The strongest wind was faster than 50m/sec and the antenna was broken into many pieces.

We prepared a new antenna in December 2004. The antenna was adjusted for 53.75MHz. We sincerely hope the antenna will be stronger than before,

4 Recent observations

The sensitivity of antenna has been improved. The continuous observation was started before 2005 Quadrantids. The comparison between the data before and after reconstruction, the result of HRO observation of 2005 Quadrantids will be reported.