

Observation of Thundercloud

*Ayune Masuda¹

1. Yokohama Science Frontier High School

Now, there are many methods to predict the thundercloud, but they are very abstract. I think if we can predict easily, it may lead to the awakening of lightning accidents. Then I observed a thundercloud by using electric waves. It's the system of observation. A thundercloud can reflect electric waves, and I can observe it by catching electric waves. I used the frequency of 53.755MHz and the AM radio. We can use those frequencies easily. There is a method to observe it as noise by the preceding study. But I think only noise is difficult to observe in a thundercloud, so noise are changed the image, it becomes easy to observe a thundercloud. I used a software called HROFFT.

It can change sound data into an image. This is the image. X axis is time and Y axis is frequency. The pattern other image is changed by something. For example, a dot is made by a shooting star and a curve line is made by an airplane. A thundercloud makes a bar line. In this way, if a bar line appears in this image, we can know that there is a thundercloud. I couldn't observe a thundercloud by using 53.755MHz in Yokohama because it didn't occur, but in Niigata Prefecture, I could observe it and identified on the image. The other hand, I couldn't observe it by using the AM radio in Yokohama because there were too much noise to identified on the image.

I found that the cause which I couldn't observe it is noise. Then I'll try to remove noise from the image. I have two kinds. First, I miss an extra electric current outside. Second, I control the receiver sensitivity. Eventually we will be able to use this system everywhere.

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