Scientific Dissemination of Eclipse Events in Japan

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In order to increase citizen's interest and concern on scientific activity and technology, it is important for scientists to make outreach activity on an occasion of astronomical events. In this paper we describe our experience on dissemination of total solar eclipse events in Japan.

Introduction

Astronomical events always stimulate human's intellectual and creative activity, and often show a road to new findings of the nature. In order to increase citizen's scientific literacy, it is important for scientists to share our knowledge on astronomical events and their true meanings with citizens. A total solar eclipse is one of the most spectacular and magnificent phenomena, and astronomers and citizens both have intellectual and mental excitement in common [1].

There are many citizens who would like to know the science on the eclipse, but they cannot see the eclipse because they are far a way from the eclipse site. The eclipse phenomena are so impressive that citizens are strongly affected by the event and desire to understand the true physics of the event which would be helpful for building up the citizen's scientific literacy.

Our project was aimed in sending the images of the solar corona and the scenery of the observing site at the Total Solar Eclipse of March 29, 2006, and to make mutual talks between astronomers and citizens in Japan by streaming and TV conference system [2].

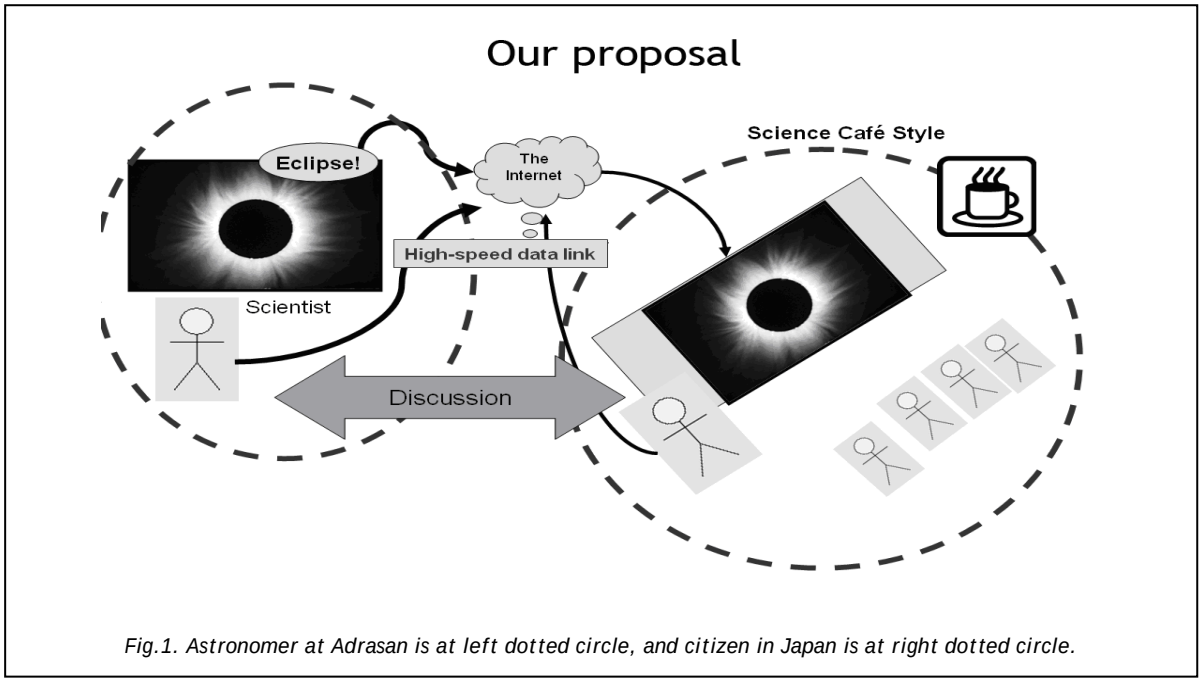

Fig.1. Astronomer at Adrasan is at left dotted circle, and citizen in Japan is at right dotted circle.

Method

The coronal images and the scenery were taken with the help of high-vision video cameras "SONY", which were set up Pentax equatorial mounting and the images were transmitted to laptop (PC).

Fig.1. illustrates the communication between astronomers at Adrasan near Antalya in Turkey and scientific museums in Japan. Total 8 scientific museums and one university were cooperating within our project.

Fig.2. shows how to transmit the images from Adrasan to Japan. We use the Broadband Global Area Network (BGAN) service, which is provided by Inmarsat. The data-link bandwidth of BGAN is up to 464 Kbps (down-link).

Fig.3. shows the overview of the system. Each museum provides a large screen for the projection of the corona images.

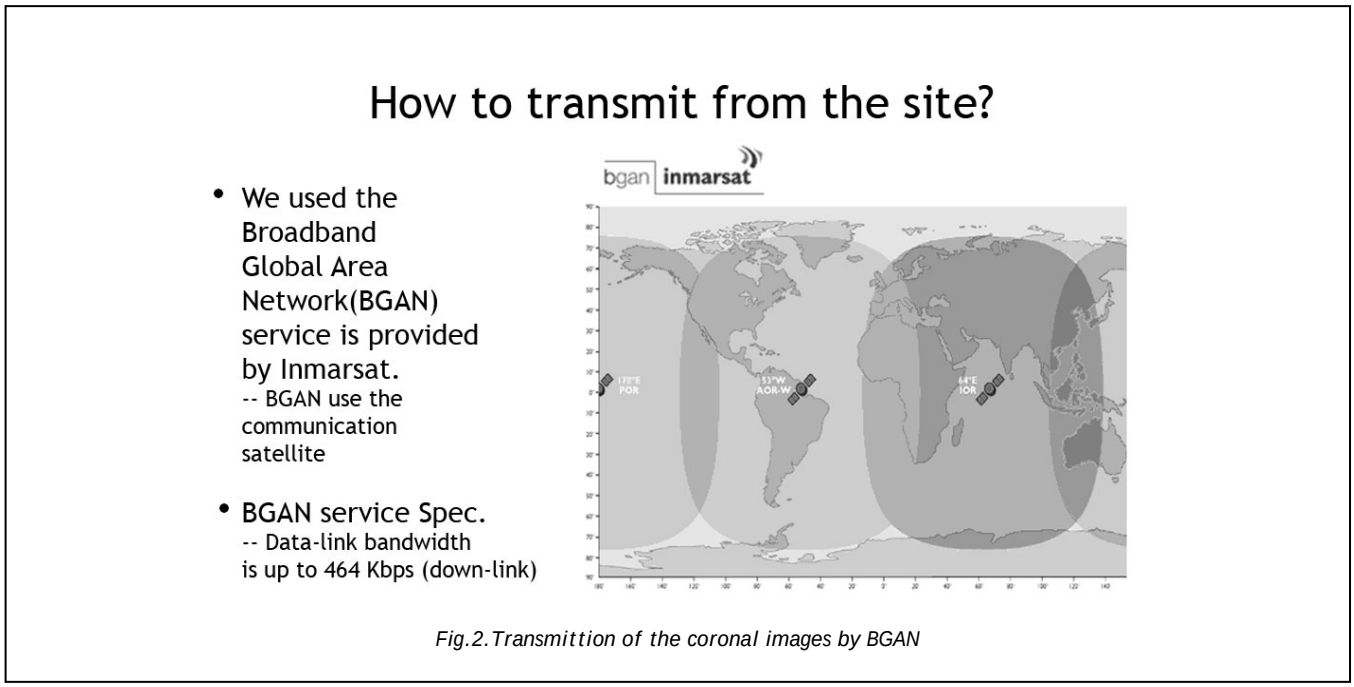

Fig.2.Transmittion of the coronal images by BGAN

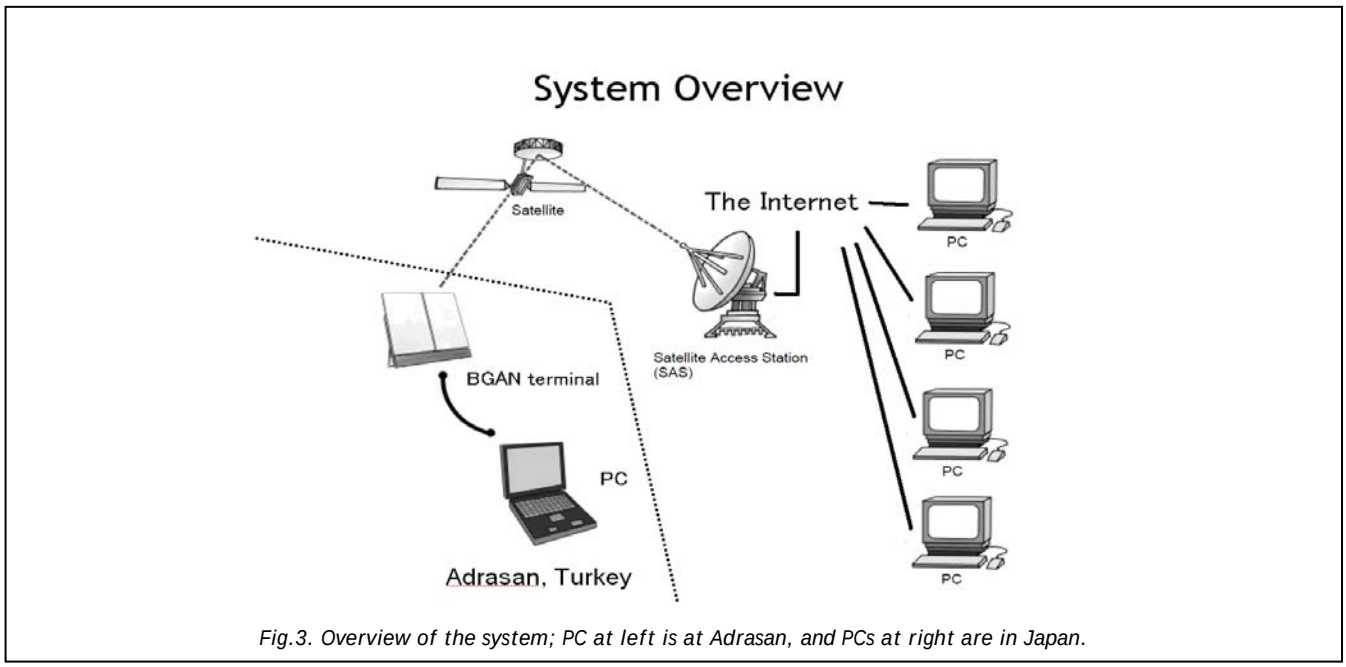

Fig.3. Overview of the system; PC at left is at Adrasan, and PCs at right are in Japan.

Summary

The Total Solar Eclipse event of March 29, 2006 was well known in advance from TV and other relevant news. On the eclipse day, about 500 young students and citizens in "Science Café Style", enjoyed to see the corona and to discuss the event with astronomers at Adrasan.

Museum staff was also important for explaining the event correctly, and thus we sent the guide line of the eclipse to museum staff before the eclipse day.

Our trail is useful for outreach activity and also for museum staff's activity, which would be helpful for citizen's interest in science.

REFERENCES

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[2] E.Hiei, "Networking of Astronomy in Japan", Report at the 3rd International Conference for Science Communicators, Buenos Aires, Brazil, April 2005.