

31st IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)
Contemporary Arts Practice and Outer Space: A Multi-Disciplinary Approach (3)

Author: Mr. Hayaki Tsuji
Taiwan Space Agency (TASA), Japan

MUSIC EXPRESSION USING SPACE TECHNOLOGY AND SPACE PHYSICS

Abstract

As humans advance into space, the artistic expression of space is unknown. Culture and art play an important role for mankind, and artistic expression using space technology and activity expression related to space physics deserve the evolution of the art field. This paper explores new ideas in the space age, focusing on the Global Space Orchestra, a music art using satellites and space physics.

The Global Space Orchestra is designed to play music created for world peace on a global scale. Musicians of musical instruments are stationed in each country, and the musical performance data is linked to an artificial satellite for simultaneous performance. The composers go into space to lead them and organize their performances as conductors.

The master pitch is calculated from the earth's natural frequency, Schumann resonance, and is executed in multiples synchronized with the earth's frequency.

The first observation of Schumann resonance is 7.83 Hz, the second observation is 14.1 Hz, and the third observation is 20.3 Hz. This is very similar to the human brain wave, wave is 8-14 Hz, wave is 14-20 Hz, and 2 wave is 20-32.5 Hz. From a scientific point of view, it is natural to play music according to the condition of the earth and the natural condition of human beings.

In 1925, the U.S. government set the standard frequency at 440 Hz, and in 1939, after an international conference in London, the ISO officially changed the international standard to 440 Hz in 1953. However, in the days of Mozart and others, many resonance frequencies such as 421 Hz and other frequencies that fit into the multiple of Schumann resonance were used, and the same can be said for Karajan's conduct an orchestra. I can't sum up all the reasons why their music was so good, but it goes without saying that their judgment has a great impact.

Since 2014, changes in the Schumann resonance phenomenon have been reported from the Russian space observation system. With the advance of humankind into space, we are conducting research on the evolution of music arts using astrophysics and space technology on a global basis, paying attention to these changes.