IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Interactive Presentations - IAF HUMAN SPACEFLIGHT SYMPOSIUM (IPB)

Author: Ms. Maiko Kato
Japan

ENJOYING MUSIC IN SPACE: INNOVATIONS IN MUSIC EXPERIENCE IN MICROGRAVITY

Abstract

As space travel becomes more realistic, recreating the everyday experience of enjoying music in space could play a significant role in supporting mental health and stress management. In a microgravity environment, the propagation of sound and acoustic properties differ from those on Earth, meaning that the music experience will also change. This paper explores methods for enjoying music in space and the technological challenges associated with it. The study focuses on researching how sound behaves in microgravity, acoustic technologies for efficient and enjoyable music listening, and the design of music playback systems within spacecraft. For example, new developments in headphones or speakers are necessary to maintain sound quality and optimize the acoustic ecosystem in a microgravity environment. Furthermore, it is proposed that music programs be implemented to support the health and motivation of space travelers, taking into consideration the psychological and physiological effects of music. Ultimately, this research aims to enhance the comfort and quality of the space travel experience, offering new possibilities for improving mental well-being during long-term space missions.