

A new window for astrophysics from the lunar orbit

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I shall present the Discovering Sky at the Longest wavelength (DSL) mission, also known as the Hongmeng mission in Chinese, which aims to unveil the sky at this low frequency band by using an array of microsatellites flying in formation on an orbit around the Moon. The mission will make highly precise 21cm global spectrum measurement in the 0.1-30 MHz band and in the 30-120 MHz band, without being hindered by ionospheric distortion, radio frequency interferences, or ground reflections. This will reveal the cosmic evolution history from the dark ages to cosmic dawn. The satellite array will also make high resolution full sky maps in the 0.1-30 MHz band, which will provide new observational clues to the study of the Galactic interstellar medium, extragalactic radio sources, and solar and planetary activities. Observation in this new window may also reveal unknown new objects or phenomena. The DSL mission science team welcomes the participation of the international science community.

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