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THE NEXT ARECIBO TELESCOPE ON THE MOON'S FAR SIDE

Abstract

The Arecibo Telescope, situated in Puerto Rico, was one of the world's biggest and most powerful radio observatories until it was destroyed in December 2020. Its demise has left a void in the scientific world, and a successor is desperately needed. The next Arecibo Telescope could be on the moon's far side. It can identify extremely faint radio transmissions from great distances. It may be capable of detecting extremely faint radio transmissions from the very beginning of our universe, which Earth-based observatories cannot. This would aid our understanding of the universe's early phases and the creation of stars. An ultra long wavelength radio observatory on the far side of the moon in one of the natural craters would be able to detect wavelengths larger than 10 metres or frequencies lower than 30MHz, which we haven't been able to investigate with Earth-based telescopes. This paper will help in comprehending the design and other aspects of the radio telescope on the lunar surface.