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INTERFEROMETRIC SETI SEARCHES WITH THE BREAKTHROUGH LISTEN INITIATIVE

Abstract

The search for technosignatures - remotely observable indicators of advanced extraterrestrial life - addresses one of the most profound questions in science: are we alone in the universe as intelligent life? The Breakthrough Listen program is leading the most concerted search for extraterrestrial intelligence (SETI) effort to-date through radio and optical surveys of nearby stars, nearby galaxies and the Milky Way galactic plane, thus representing the best chance the human race has ever had to detect a technosignature. Recently, Breakthrough Listen has partnered with the SETI Institute to develop commensal SETI search capabilities on some of the most sensitive radio interferometers, including the Allen Telescope Array (ATA), the Very Large Array (VLA) and MeerKAT. Interferometric radio telescopes have the advantage of providing a larger field of view, maximizing the SETI survey speed. In this talk, we will present the latest updates on these surveys and conclude with a refreshed outlook on SETI search using next generation telescope facilities.