

Abstract Submitted
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Signal Phasing System for Dual Antenna DUTCH AKANA, University of Hawaii Maui Campus — NASAs Radio JOVE project uses a manual phasing system in dual dipole configuration which the operator will change the length of one of the transmission cables on a dipole to adjust the phase of a signal to be aligned with the same signal received from another antenna. My signal phasing device will be an electronic system which is placed between the transmission lines of the antennae to continually adjust this signal without manually changing the cable lengths. As the object moves across the sky, the system will provide a more accurate path-length difference for tracking, this will increase the accuracy of beam steering and allow students to remotely operate Radio JOVE with increased accuracy. NASA operates and/or funds many antenna arrays used in the pursuit of space exploration and knowledge of our universe. Radio JOVE could be useful in supporting the Juno mission as its designed to gather Jovian emission centered around 20.1MHz so improving the current design could be beneficial to scientist. In order to complete the project, it requires foundational knowledge in antenna theory and signal processing used by these antenna arrays to be completed. These concepts are use within industries which support NASAs space goals.

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