ABSTRACT

RESEARCH PAPER: Gravitational Wave Astronomy and its Potential for New Discoveries

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This research paper discusses details involving the potential for discovering parts of the universe that are difficult to identify. The paper outlines various observations, discoveries, and progress implemented concerning gravitational waves. It clarifies the intended purpose of various researchers and improvements that have been proposed for achieving the required goals. The relevance of identified significant discoveries has been outlined in the research paper, along with the corresponding measurable effects that can be implemented using the idea of gravitational waves. It contains discussions based on the Laser Interferometer Space Antenna (LISA) technology. Finally, the document provides next generation research operations intended to improve sensors designed to analyze the entire volume of space. It discusses the modifications suggested as a method of improving existing detectors and devices. The paper outlines major challenges behind implementing the required sensors in order to accomplish the objectives of scientists in detecting gravitational waves near the sun.