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Space-borne gravitational wave detection in China and progress

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China's space-based gravitational wave detection projects will open a new observational window in the mid-to-low frequency band (0.1 mHz to 1 Hz), providing new approaches to understand the origin and evolution of the universe, the formation and evolution of black holes, the nature of gravity, dark energy, and dark matter. Since space-based gravitational wave detection involves a series of key technologies, the TianQin project has proposed a "0-1-2-3" development roadmap, while the Taiji project has put forward a three-step plan. Both TianQin-1 and Taiji-1 were successfully launched in 2019 and have completed their in-orbit tests with outstanding results. Supported by the National Key Program on Gravitational Wave Detection, China has achieved breakthroughs in critical technologies for space-based gravitational wave detection, with the technological levels meeting the requirements for project initiation. In this talk, I will briefly introduce recent progress in China's space-based gravitational wave detection program and provide an outlook on future development.

Collaboration you are representing

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