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【484】 Role of Non-Linear Memory in Resolving Distance-Inclination Degeneracy in Ground-Based Gravitational Wave Detectors: Present and Future

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Gravitational wave detection is a powerful tool that provides us with new ways to understand the universe. However, certain parameters, such as inclination and distance, are degenerate. This limitation hinders our ability to accurately measure other important factors like precession. Breaking the degeneracy between inclination and distance can also give us new insights into formation channels and cosmology. The memory effect, a unique characteristic of gravitational waves, can aid in breaking this degeneracy, especially in symmetric mass systems. In this work, we conducted a Parameter Estimation study to investigate the memory effect and its potential to enhance our interpretation of gravitational wave signals.

Theoretical Work

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