

Ringdown Signals: Data Gaps, Joint Observations, and Theoretical Outlook

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The ringdown phase is one of the most informative stages of gravitational-wave observations, encoding the spacetime properties of the remnant black hole and clues to its formation. Upcoming space-based detectors are expected to greatly increase the number of detectable ringdown events. However, unavoidable data gaps in space missions can substantially affect these short-lived signals. In this talk, we quantify the impact of data gaps on ringdown detection and parameter estimation, and assess how joint observations can mitigate these effects. We conclude with a concise review of recent progress on ringdown studies and an outlook for theory and observation.

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