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A special property of natural polynomials for Schwarzschild black holes

We present a special property of natural polynomials related to the overtone label of quasi-normal modes for Schwarzschild black holes. The natural polynomials for the radial Teukolsky equation have been the subject of recent work involving quasinormal modes of Kerr black holes. These polynomials, which can be constructed using Gram-Schmidt orthogonalization, are a basis for the ringdown strain of gravitational wave signals from black hole mergers. We derive a three-term recurrence relation which allows us to shift overtone peaks using algebraically special frequencies, and to provide insight into the physical significance of the overtone index.

Would you be interested in presenting a poster? (this will not impact the decision on your talk)

yes

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