

GRADUATE STUDIES IN MATHEMATICS

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Mathematical Theory of Scattering Resonances

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AMS AMERICAN MATHEMATICAL SOCIETY

Textbook



Mathematical Theory of Scattering Resonances

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Resonance is the Queen of the realm of waves. No other book addresses this realm so completely and compellingly, oscillating effortlessly between illustration, example, and rigorous mathematical discourse. Mathematicians will find a wonderful array of physical phenomena given a solid intuitive and mathematical foundation, linked to deep theorems. Physicists and engineers will be inspired to consider new realms and phenomena. Chapters travel between motivation, light mathematics, and deeper mathematics, passing the baton from one to the other and back in a way that these authors are uniquely qualified to do.

—Eric J. Heller, *Harvard University*

Mathematical Theory of Scattering Resonances concentrates mostly on the simplest case of scattering by compactly supported potentials but provides pointers to modern literature where more general cases are studied. It also presents a recent approach to the study of resonances on asymptotically hyperbolic manifolds. The last two chapters are devoted to semiclassical methods in the study of resonances.

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