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Resonance Lifetimes from Complex Densities[1] DANIEL WHITENACK, Department of Physics, Purdue University, ADAM WASSERMAN, Department of Chemistry, Purdue University — The *ab-initio* calculation of resonance lifetimes of metastable anions challenges modern quantum-chemical methods. The exact lifetime of the lowest-energy resonance is encoded into a complex "density" that can be obtained via complex-coordinate scaling. Using one and two electron examples, we illustrate a method for extracting the lifetime from the complex density and explore a Kohn-Sham analog for resonances.

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