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# Tidal Love numbers of black holes in anti-de Sitter

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Tidal Love numbers in asymptotically flat spacetimes encode the response of compact objects to external gravitational perturbations, such as tidal fields, and impact the phase of gravitational waveforms from binary mergers. In asymptotically anti-de Sitter (AdS) spacetimes their relevance is entirely different: under the gauge-gravity duality, they are understood as linear response coefficients governing how plasmas polarize when the ambient geometry is deformed.

I will present results for the static tidal Love numbers of the Schwarzschild-AdS black hole computed using two different schemes. In contrast with their asymptotically flat counterparts, tidal Love numbers of AdS black holes do not vanish identically and they imply correlations between the polarization of the components of the plasma's stress-energy tensor and the curvature of the ambient space.

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