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Boundary value problems and holography for wave equations in asymptotically anti-de Sitter spaces

One of the important ingredients in the so-called AdS/CFT correspondence (where AdS stands for "anti-de Sitter" and CFT stands for "conformal field theory") is a boundary value problem with data given at the conformal infinity on a manifold that looks asymptotically like anti-de Sitter space, the simply connected Lorentzian space form of constant negative curvature. Physicists refer to this type of boundary value problem as a "holographic" prescription problem. Our talk will be an introduction to AdS geometry, followed by a general survey of recent results and open questions on this non-classical type of boundary value problem.
This is joint work with Alberto Enciso (Instituto de Ciencias Matematicas, Madrid).