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Solving the Einstein equations holographically

We will give a motivated introduction to a problem of geometric analysis which consists in solving the Einstein equations by prescribing data on the time-like conformal boundary of space-time. This point of view, known as holography, is motivated by the AdS/CFT correspondence, a conjectural correspondence relating conformal field theory on the time-like conformal boundary of space-time to the geometry of the space-time in its interior. We will present some the main known results the problem of solving the Einstein equations holographically and indicate open problems. This is joint work with Alberto Enciso (ICMAT, Madrid).