# Advances on the Einstein constraint equations of general relativity

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The Einstein constraint equations (ECE) of general relativity appear naturally within the initial value formulation of this theory. It is a straightforward fact that the ECE pose a necessary condition for the this problem to be well posed. It is a remarkable fact that in most of situations of interest, they also serve as sufficient conditions. This link between solutions of the ECE and solutions of the space-time Einstein equations has directed plenty of attention into their analysis. While results concerning existence and uniqueness for the constant mean curvature case (CMC) have been well known for quite some time, far from CMC results have only recently been established in a wide variety of situations. The aim of this talk is, on the one hand to provide a review of both these classical and recent results, and on the other hand to present some further generalizations which include existence results for the ECE for a large variety of physically relevant situations.