Construction of gravitational instantons with non-maximal volume growth

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On this poster, I explain a construction for families of gravitational instantons of type ALG, ALG*, ALH and ALH*. These gravitational instantons are constructed using a gluing construction, where we combine ALF gravitational instantons to a bulk space that is constructed using the Gibbons-Hawking ansatz. Using a deformation argument, we perturb these approximate solutions into genuine gravitational instantons.