

ALG SPACES AND THE HITCHIN EQUATIONS

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ABSTRACT. ALG spaces are certain 4-dimensional gravitational instantons with a particular asymptotic geometry. Recent work shows that some of these spaces can arise as moduli spaces of solutions of the Hitchin equations on the four-punctured sphere. I will report on recent work with Fredrickson, Swoboda and Weiss which exhibits a global correspondence between global parabolic parameters for the Hitchin system and Torelli parameters on the ALG moduli space. This confirms part of Boalch's modularity conjecture.