

Toward the asymptotics of the L^2 metric on the Hitchin moduli space

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Motivated in part by the conjectural picture of Gaiotto-Moore-Neitzke, it is now looking more plausible that one may be able to analyze the asymptotic structure of the L^2 metric on the moduli space of Higgs bundles using tools from geometric analysis. I will review my previous work with Swoboda, Weiß and Witt to construct large solutions in this moduli space, as well as our ongoing work to apply that construction to study metric asymptotics. I will also briefly discuss the analogous story of Calabi-Yau metrics on QALE spaces and describe the relevance of that picture for the Hitchin moduli space.