STABLE MAPS AND A UNIVERSAL HITCHIN COMPONENT

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Abstract

Let X be a pinched Cartan-Hadamard manifold, and Y a symmetric space of non-compact type. We define a notion of stability for coarse Lipschitz maps $f : X \to Y$, and show that every stable map from X to Y is at bounded distance from a unique harmonic map. As an application, we extend any positive quasi-symmetric map from $\mathbb{RP}^1$ to the flag variety of $\mathrm{SL}_n(\mathbb{R})$ to a harmonic map from $\mathbb{H}^2$ to the symmetric space of $\mathrm{SL}_n(\mathbb{R})$. This allows us to define a universal Hitchin component in the style suggested by Labourie and Fock-Goncharov.
This is all joint work with Peter Smillie.