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Metric domination for Higgs bundles of quiver type

Given a G-Higgs bundle over a Riemann surface, there is a unique equivariant harmonic map into the associated symmetric space G/K through solving Hitchin equation to Higgs bundles. We find a maximal principle for a type of coupled elliptic systems and apply it to analyze the Hitchin equations associated to the Higgs bundles of quiver type. In particular, we find several domination results of the pullback metrics of the associated branched harmonic maps into the symmetric space. This is joint work with Song Dai.