S-Duality and Higgs Naturalness DURMUS A. DEMIR, Izmir Institute of Technology — Through the conformal transformations with respect to the Higgs field, we construct the S-dual of the Standard Model Higgs sector. The dual Higgs model is overly weakly-coupled to wash out the quadratic divergences in Higgs boson mass. The Higgs boson measures up natural thanks to S-duality, and new physics, if any, is to form a conformal-invariant sector.

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Date submitted: 14 Jan 2013
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