NORIKO YUI, Queen's University The modularity of Calabi-Yau threefolds with K3 fibrations

We consider certain Calabi-Yau threefolds which are fibered by non-constant semi-stable K3 surfaces. These are non-rigid Calabi-Yau threefolds, reaching the Arakelov-Yau bound. We address the modularity of these Calabi-Yau threefolds.