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*Moduli of K3 Surface Fibered Calabi-Yau Threefolds*

We introduce a generalization of Kodaira's theory of elliptic surfaces for threefolds fibered by lattice polarized K3 surfaces. Specializing to fibers of "nearly maximal" Picard rank, we obtain a complete classification (and construction!) for these Calabi-Yau threefolds. The class includes the famous "quintic mirror" and its Hodge-theoretic analogues. This is joint work with Andrew Harder, Andrey Novoseltsev, and Alan Thompson.