

## **K3 surfaces with real multiplication**

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I am going to report on joint work with Andreas-Stephan Elsenhans, in which we constructed explicit examples of K3 surfaces having real multiplication. Our examples are of Picard rank 16. The standard method for the computation of the Picard rank provably fails for the surfaces constructed. The existence of K3 surfaces having real multiplication was proven before, using a Hodge-theoretic approach, which did not lead to explicit equations. Our approach involves a massive computer search using magma.