

Point counting on K3 surfaces and applications

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The degree 2 model of a K3 surface is a double cover of the projective plane ramified at a degree 6 curve. In the first part of this talk I will summarize several methods to count the number of points on these surfaces over finite fields.

We will illustrate by many numerical data that this is practical for the Picard rank computation of a general K3 surface. Finally, we will have a look at some exceptional examples.