

Meeting: 1000, Albuquerque, New Mexico, SS 6A, Special Session on Arithmetic Geometry

1000-14-22 **Arthur Baragar*** (baragar@unlv.nevada.edu), Department of Mathematical Sciences,
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Fractals related to K3 surfaces. Preliminary report.

Let V be a K3 surface with Picard number n . In this talk, we describe a natural relation between the Kähler cone (or ample cone or nef cone) for V and a set Ω imbedded in \mathbb{R}^{n-2} . The set Ω can be thought of as the boundary at infinity of a cross section of the Kähler cone. We explain why, in many cases, this set is a fractal. We give several pictorial representations of this fractal for a couple of classes of K3 surfaces with Picard number 4; we show a connection between this fractal and the group of automorphisms on V ; and we conjecture a connection between this fractal and a certain arithmetic quantity on V . (Received June 30, 2004)