1014-14-711   **Arthur Baragar*** (`baragar@unlv.nevada.edu`), Department of Mathematical Sciences, 4505 Maryland Parkway, Box 454020, Las Vegas, NV 89154-4020. *Orbits of curves on K3 surfaces and a fractal associated to the ample cone.*

Associated to the ample cone for a K3 surface $V/\mathbb{C}$ with Picard number n is a fractal $\Lambda(V)$. This fractal lies on the $n-2$ sphere $\mathbb{S}^{n-2}$ and is the intersection of the closure of the ample cone with the boundary of the light cone and a hyperplane that intersects the light cone transversely. In this talk, we sketch (very briefly) the proof that the Hausdorff dimension for $\Lambda(V)$ is equal to the exponent of growth for orbits of curves under the action of the group of automorphisms on V. We will also give several pictorial representations of some of these fractals $\Lambda(V)$ for $n=3$ and 4. The speaker is of the opinion that the same should be true for the exponent of growth for orbits of rational points on V/K for sufficiently large number field K and generic rational point P. (Received September 22, 2005)

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