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タイトル TITLE	**On Fujita's Conjecture**		
講演者 NAME	**Stefan Helmke**	所属 INSTITUTION	**RIMS**

Let X be a smooth projective surface over the complex numbers and let L be an ample divisor on X. In 1988, I. Reider proved that if $x \in X$ is a base point of the linear system $|K_X + L|$, then either $L^2 \leq 4$ or there is a curve C containing x with $L.C = 1$. This generalizes older results on pluri-canonical systems on minimal surfaces of general type by E. Bombieri and K. Kodaira and proves a popular conjecture of T. Fujita in dimension two. This conjecture has a remarkable history, which goes back to the fourth century and many famous mathematician are involved in its development. A base point of $|K_X + L|$ is indeed related to the failure of the Cayley-Bacharach Theorem at this point, which has its origin in a theorem of Pappus of Alexandria.

By using ideas of the minimal model program in recent years, it was possible to get some results on higher dimensional projective varieties as well, but they were far from being optimal. The general idea is, that if x is a base point of $|K_X + L|$ as above, but the dimension of X is arbitrary, there should be still some subvariety of X containing x with relatively small degree with respect to L. The precise conditions on this degree are somewhat involved. Nevertheless, the best result one can prove with a few new techniques based on earlier ideas, is quite strong. Actually there are many examples showing that the bounds are now really optimal. More general, one can even get good criteria for $|K_X + L|$, to separate an arbitrary number of points. For example, if H is any ample divisor on X, then $|K_X + mH|$ separates

n points, if $m > \dim X + n - 1$. Unfortunately, one cannot say anything, if some of the points are infinitely near. The proof is limited to separate points and if one wants to separate infinitely near points, one has to develop new techniques.