Manifolds Covered by Lines and Extremal Rays

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Abstract. Let $X$ be a smooth complex projective variety, and let $H \in \text{Pic}(X)$ be an ample line bundle. Assume that $X$ is covered by rational curves with degree one with respect to $H$ and with anticanonical degree greater than or equal to $(\dim X - 1)/2$. We prove that there is a covering family of such curves whose numerical class spans an extremal ray in the cone of curves $\text{NE}(X)$.

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