THE BERTINI IRREDUCIBILITY THEOREM FOR HIGHER CODIMENSIONAL SLICES

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ABSTRACT. In this talk, I will present joint work with Philip Kmentt, in which we investigate, for a projective, geometrically irreducible variety $X$ over an arbitrary field, and a positive integer $k$, the dimension of the locus of “bad” linear spaces $H$ of codimension $k$ whose intersection with $X$ is no longer geometrically irreducible. Our work generalises the method of random hyperplane slicing over finite fields recently developed by Poonen and Slavov to treat the case $k = 1$. 

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