HURWITZ SPACES AND EXTREMAL BETTI NUMBERS

The Betti table of a canonical curve describes the shape of the equations defining the curve in projective space, and has been studied intensely from the time of Hilbert and Petri. In the 1980s, Green offered a conjectural description of precisely which values of the Betti table should vanish, postulating a surprising link between the intrinsic geometry of the curve and the extrinsic geometry as encoded in the Betti table. More recently, Schreyer has gone beyond Green's conjecture to predict the values of the *extremal* Betti numbers, i.e. the value of the entries on the extreme positions of each row. These values should be largely determined by the number of pencils of minimal degree possessed by the curve. We will discuss a proof of this conjecture for a general curve of each gonality stratum. The proof relies heavily on the geometry of Hurwitz spaces.

This talk concerns joint work with Gabi Farkas.