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**Title: Plücker formulas using equivariant cohomology of coincident root strata**

**Abstract:** The classical formulas of Plücker tell us that for a generic degree  $d$  projective plane curve the number of its bitangents and the number of its inflection lines are both determined by polynomials in  $d$ . Generalizing the above setup, we consider sets of tangent lines of projective hypersurfaces with their orders of tangency described by partitions  $\lambda$ . For example, the set of bitangents will correspond to  $\lambda = (2, 2)$ . We investigate the cohomology (and Chern-Schwartz-MacPherson and motivic Chern) classes of these sets of tangent lines. In particular, we show that for any given  $\lambda$  these classes are also polynomials in the degree of the hypersurfaces. We interpret the coefficients of these classes as enumerative problems regarding tangents lines, and call these enumerative problems generalized Plücker numbers.

We will also try to explain how these problems can be translated into the language of equivariant cohomology (and K-theory). Joint work with László Fehér.