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Support varieties and holomorphic differentials

Suppose $X$ is a smooth projective curve over an algebraically closed field $k$ on which a finite group $G$ acts faithfully over $k$. It is a classical problem to describe the $kG$-module structure of the holomorphic differentials $H^0(X, \Omega^1_X)$. When the characteristic of $k$ is a prime number $p$ that divides $\#G$, this problem is much more difficult. I will discuss how one can use support varieties to study this problem. In particular, I will show that the non-maximal support variety of $H^0(X, \Omega^1_X)$ is contained in a union of projective spaces associated to the inertia subgroups of the action of $G$ on $X$. 