Pseudoreflections on Prym varieties

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Quotients of complex tori by finite groups appear frequently in algebraic geometry, and recently in a series of papers published by the author and Giancarlo Lucchini Arteche, special attention has been given to smooth quotients. One corollary of their results is that smooth quotients of Jacobians by a finite group action that comes from the curve only exist in genus up to 3, and can be explicitly listed. The natural question is to then ask if one can characterize smooth quotients of Prym varieties by finite groups where the action is of "geometric origin", and if examples exist in any dimension. In this talk we will show that, unlike the Jacobian case, there indeed exist smooth quotients of Prym varieties in arbitrary dimension, and we will characterize all Prym varieties that possess a pseudoreflection "of geometric origin". These fall into three families that we will explicitly describe, and we will give an interesting distinguished example in $g = 6$ consisting of the intermediate Jacobian of a cubic threefold with an Eckardt point.

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