On Galois representations arising from Abelian varieties with bad reduction

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Abstract. It is known that for an Abelian variety $A/\mathbb{Q}_p$ with good reduction, the Galois representation on the p-torsion points arises from a finite-flat group scheme over $\mathbb{Z}_p$. We study the question of when this also holds for Abelian varieties having bad reduction. This question arises in an attempt to extend a cohomological formula for the component group of the Néron model of an Abelian variety with semistable reduction to the case of non-semistable reduction. We'll explain this connection and look at examples, including Jacobians of Fermat quotients.