CLASSES OF COMPACTIFIED JACOBIANS IN THE GROTHENDIECK RING

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Abstract: Let $C$ be a nodal curve over an algebraically closed field $k$. Denote by $Pic^0(C)$ the generalized Jacobian of $C$, which is the classifying space for line bundles on $C$ having degree zero on each irreducible component. If the dual graph of $C$ is not a tree, then $Pic^0(C)$ is not compact. But (many) nice compactifications of $Pic^0(C)$ are known. I will describe how one can use the combinatorics of the dual graph to compute the class of these compactifications in the “Grothendieck ring of $k$-varieties”. This is ongoing joint work with Alberto Bellardini. The talk should be accessible to graduate students.