



The Local Structure of Compactified Jacobians

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This paper studies the local geometry of compactified Jacobians constructed by Caporaso, Oda-Seshadri, Pandharipande, and Simpson. The main result is a presentation of the completed local ring of the compactified Jacobian of a nodal curve as an explicit ring of invariants described in terms of the dual graph of the curve. The authors have investigated the geometric and combinatorial properties of these rings in previous work, and consequences for compactified Jacobians are presented in this paper. Similar results are given for the local structure of the universal compactified Jacobian over the moduli space of stable curves at a point corresponding to an automorphism-free curve. In the course of the paper, we also review some of the literature on compactified Jacobians.

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