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Frederick van der Wyck* (wyck@math.harvard.edu), Mathematics Department, Harvard University, Cambridge, MA. *Moduli spaces of curves with prescribed singularities*. Preliminary report.

We will construct and describe moduli spaces of curves with singularities of fixed (formal) isomorphism type. These arise naturally in the study of compactifications of the moduli space of smooth curves, for example in the work of Hassett-Hyeon and Smyth on the log minimal model program for the moduli space of stable curves. They can also be regarded as a generalization of moduli spaces of pointed curves. We will explain the relevant deformation theory and relate it to standard deformation theories, present a global structure theorem and describe “equisingular” compactifications of these spaces. (Received August 19, 2008)