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Connected components of the strata of the moduli space of meromorphic differentials.

(English) [Zbl 1323.30060](#)

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A nonzero holomorphic one-form (abelian differential) on a compact Riemann surface naturally defines a flat metric with conical singularities on this surface. However, it turns out that such structures naturally appear when studying compactifications of strata of the module space of an abelian differential. In this paper, the author investigates the case of translation surfaces that come from meromorphic differentials defined on a compact Riemann surface. The main goal of the paper is to describe the connected components of the moduli space of meromorphic differentials with prescribed poles and zeros. The author shows that when the genus is greater than or equal to two, then there is an analogous classification as the case of Kontsevich and Zorich, while in genus one, there can be an arbitrarily large number of connected components.

Reviewer: [V. V. Chueshev \(Kemerovo\)](#)

MSC:

[30F60](#) Teichmüller theory for Riemann surfaces

[32G15](#) Moduli of Riemann surfaces, Teichmüller theory (complex-analytic aspects in several variables)

[30F30](#) Differentials on Riemann surfaces

Cited in **3** Reviews

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