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Moduli for stable actions of an abelian group on trees of projective lines. (English)

Zbl 0836.14029

Compos. Math. 90, No. 3, 267-303 (1994).

The authors study certain actions of abelian groups on trees of projective lines. The notion of trees of projective lines (TPL) was previously studied by *F. Herrlich* [Math. Ann. 291, No. 4, 643-661 (1991; Zbl 0723.14020)] and in other articles. This notion arises in the study of compactifications of moduli spaces of curves. Gerritzen and Herrlich have previously proven a result for stable complex curves analogous to the Schottky uniformization of smooth Riemann surfaces. (A stable curve is one having only ordinary double points as singularities). They showed that all stable curves of genus g can be represented as the quotient of an open dense subset of a TPL by a free group.

This motivates the study in the present article. Given a finitely generated group Γ , one looks for a moduli space of actions of Γ on TPL's. This is done for the case where Γ is abelian. Details are given for the cases when Γ is either a finite abelian group or \mathbb{Z} .

One of the difficulties is that a TPL can be infinite, and therefore it is not necessarily a scheme. However, it is always a projective limit of projective varieties. Precise definitions are given in the article.

Reviewer: [L.Moser-Jauslin \(Dijon\)](#)

MSC:

[14L30](#) Group actions on varieties or schemes (quotients)
[14H10](#) Families, moduli of curves (algebraic)

Keywords:

[moduli space for actions of abelian groups on trees of projective lines; compactifications of moduli spaces of curves](#)

Full Text: [Numdam](#) [EuDML](#)

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