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Uniformization of the moduli space of generalized $\mathcal{D}$-elliptic sheaves

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Abstract

Drinfeld defined the notion of elliptic modules, which are now called Drinfeld modules, as an analogue of elliptic curves in the function field setting. To prove the Langlands correspondence in this context, Drinfeld studied moduli spaces of elliptic sheaves. The categories of elliptic sheaves and Drinfeld modules are equivalent under certain conditions. Since then, many generalizations of elliptic sheaves have been studied, such as $\mathcal{D}$-elliptic sheaves defined by Laumon, Rapoport and Stuhler and Frobenius-Hecke sheaves defined by Stuhler. In this talk we will give a brief introduction to the function field world and introduce a new generalization of elliptic sheaves, called generalized $\mathcal{D}$-elliptic sheaves. We will state a uniformization theorem for the moduli space of the latter and talk about the proof if time permits. This builds on work of Laumon-Rapoport-Stuhler, of Hartl and of Rapoport-Zink.

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