On Drinfel’d twists and their use in non-commutative geometry

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I will present some recent developments in the theory of non-formal Drinfel’d twists. A Drinfel’d twist consists in a tool that allows to deform in an associative way any associative algebra that possesses a given symmetry. For instance the Moyal twist is a Drinfel’d twist for the abelian symmetry \(\mathbb{R}^d\). I will report a general method for constructing Drinfel’d twists based on generally non-abelian symmetries. I will conclude by mentioning applications in various domains.