

1154-46-1497

Becky Armstrong, Lisa Orloff Clark, Kristin Courtney, Ying-Fen Lin, Kathryn McCormick* (kamccorm@umn.edu) and **Jacqui Ramagge**. *Twisted Steinberg Algebras*.

We introduce twisted Steinberg algebras, which generalize complex Steinberg algebras, and are a purely algebraic notion of Renault’s twisted groupoid C^* -algebras. In particular, for each ample Hausdorff groupoid G and each locally constant 2-cocycle σ on G taking values in the complex unit circle, we study the complex $*$ -algebra $A(G, \sigma)$ consisting of locally constant compactly-supported functions on G , with convolution and involution twisted by σ . We introduce a “discretized” analogue of Kumjian’s twist over an étale Hausdorff groupoid, and show that there is a one-to-one correspondence between these discretized twists and locally constant 2-cocycles on G . In this setting, we also define a twisted Steinberg algebra and show that the two definitions agree. Under the additional hypothesis that G is effective, we prove Cuntz–Krieger and graded uniqueness theorems for $A(G, \sigma)$, and we show that simplicity of $A(G, \sigma)$ is equivalent to minimality of G . (Received September 15, 2019)