

CHERN-SIMONS ACTION AND REIDEMEISTER TORSION IN ARITHMETIC

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I will survey Minhyong Kim's idea and construction of an arithmetic Chern-Simons action functional, and then present a result towards his vision of using Chern-Simons theory to construct L-functions.

I will highlight the role that Reidemeister torsion plays in that arithmetic picture, and give some results both in the topological and geometric setting.