

# Hyperbolic Kac-Moody symmetry, arithmetic and applications

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Hyperbolic Kac-Moody groups and algebras appear to play a fundamental role in high-energy theoretical physics, particularly the proposed unification of string theories, yet our knowledge of their internal structure is sketchy and fragmented. We discuss some of the mathematical problems that arise in the study of hyperbolic Kac-Moody symmetry and its applications.