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Discrete symmetries of infinite dimensional Lie groups

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Kac–Moody groups are natural generalizations to infinite dimensions of finite dimensional simple Lie groups. These infinite dimensional groups appear in the study of algebraic symmetries of general relativity and a theory known as supergravity, which incorporates both general relativity and supersymmetry. The discrete symmetries arising from forms of these groups over the integers, play a particularly important role. We discuss the problem of constructing these groups and characterizing their symmetries.

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