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In mathematics, a Kac–Moody algebra (named for Victor Kac and Robert Moody, who independently discovered them) is a Lie algebra, usually infinite-dimensional, that can be defined by generators and relations through a generalized Cartan matrix. These algebras form a generalization of finite-dimensional semisimple Lie algebras, and many properties related to the structure of a Lie algebra such ... 21st-century science, engineering, and medicine rely more and more on distilling knowledge and insights from digital data. Our goal as machine learning researchers is to understand underlying scientific phenomena and mechanisms, make optimal decisions, predict the future, detect anomalies, or compensate for noisy or missing data. Superspace is the coordinate space of a theory exhibiting supersymmetry. In such a formulation, along with ordinary space dimensions x, y, z, \dots , there are also "anticommuting" dimensions whose coordinates are labeled in Grassmann numbers rather than real numbers. The ordinary space dimensions correspond to bosonic degrees of freedom, the anticommuting dimensions to fermionic degrees of freedom. Physics 236c, Quantum Field Theory in Curved Spacetime, 1990 Chapter 0, Introduction pages 1-10 Chapter 1, Quantum field theory in flat spacetime pages 1-38 : irreps of Poincare group, relativistic causality, positive and negative frequencies, canonical quantization Chapter 2, Quantum field theory on curved spacetime pages 1-40 : free scalar field on globally hyperbolic spacetime, Bogoliubov ... - Current Algebra & Anomalies