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## Jordan Algebras and Dynamical Conformal Symmetries

*Thursday, June 2, 2022 11:00 AM (45 minutes)*

The Newton-Hooke duality between the 2D hydrogen atom and the Landau problem is explained via the Tits-Kantor-Koecher construction of the conformal symmetries of the Jordan algebra of real symmetric  $2 \times 2$  matrices. The connection between the Landau problem and the 3D hydrogen atom is elucidated by the reduction of a Dirac spinor to a Majorana one in the Kustaanheimo-Stiefel spinorial regularization.

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