

LECTURE SERIES

Mathematical Science Literature

May 4, 2020

3:00pm - *Virtually*

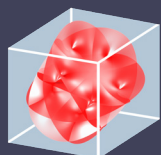


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"The ADHM construction of Yang-Mills instantons"

Abstract: In 1978 (Physics Letters 65A) Atiyah, Hitchin, Drinfeld and Manin (ADHM) described a construction of the general solution of the Yang-Mills instanton equations over the 4-sphere using linear algebra. This was a major landmark in the modern interaction between geometry and physics, and the construction has been the scene for much research activity up to the present day. In this lecture we will review the background and the original ADHM proof, using Penrose's twistor theory and results on algebraic vector bundles over projective 3-space. As time permits, we will also discuss some further developments, for example the work of Nahm on monopoles and connections to Mukai duality for bundles over complex tori.



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