Friday, February 9th (at 4.00pm, UK time)

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Title: Integrability of Monopoles.

ABSTRACT

Magnetic monopoles are soliton solutions to the Yang-Mills-Higgs equations, and SU(2) monopoles in Euclidean space exhibit extraordinary geometric properties which allow us to use approaches from integrable systems to describe solutions and construct them.

I will survey some of these results, the role of (mini)twistor theory in giving a spectral curve, the relation to Nahm's equations which have a Lax pair, and how symmetry techniques can simplify to known systems such as Toda.