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On calculating the mass-gap in Yang-Mills Theory

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Abstract: The existence and mass-gap of Yang-Mills theory in 3+1 dimensions is an open Millennium Prize problem. In this lecture, I point out the curious similarities between the SU(2) mass gap and the superfluid gap in non-relativistic atomic systems when using an exact mathematical rewriting of the Yang-Mills Lagrangian. This may (or may not) constitute a new route towards calculating the mass-gap in Yang-Mills theory.

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