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Quantum Field Theory and the Jones Polynomial

Abstract

I will make a quick informal introduction to the ideas of Quantum Field Theory (QFT). Then I will focus attention on a specific type of QFT in a 3 dimensional space-time known as Chern–Simons theory. I will mention a few basic things about knot theory and finally present an extremely condensed version of a Fields Medal paper from the 80's that connects knot theory with the aforementioned Chern–Simons theory on 3 dimensional manifolds.