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# Fractional instantons and Confinement: first results for T^2xR^2

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In this talk, we provide results for our first studies of Yang-Mills theory on a 4d torus with twisted boundary conditions. We show how information of the semiclassical confinement at small T^2 size is extracted. Different strategies to apply gradient flow techniques and instanton identifications are presented and discussed. We show how the identification becomes increasingly challenging once the small circle regime is left. We discuss possible implications for an instanton liquid model.

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