



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

Yang—Mills glueballs vs closed effective strings

(Zoom Seminar)

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Date: November 12, 2021

Time: 6.00 PM IST

Zoom link shall be shared separately



I will review the Axionic String Ansatz (ASA) for the spectrum of glueballs in 3d Yang-Mills.

I will describe recent lattice measurements of glueball spins which confirm the ASA predictions.

In order to understand better the ASA strings and as a first step towards a perturbative calculation of the glueball mass splittings I compare the ASA spectrum to the closed effective string theory. Namely, I model glueballs as excitations around the folded rotating rod solution with a large angular momentum J . The resulting spectrum agrees with the ASA in the regime of validity of the effective theory, i.e., in the vicinity of the leading Regge trajectory. Interestingly though, the closed effective string theory overestimates the number of glueball states far above the leading Regge trajectory. I will also present preliminary results on the glueball spectrum in 4d Yang-Mills.