Non-Lorentzian Descriptions for the M5-brane

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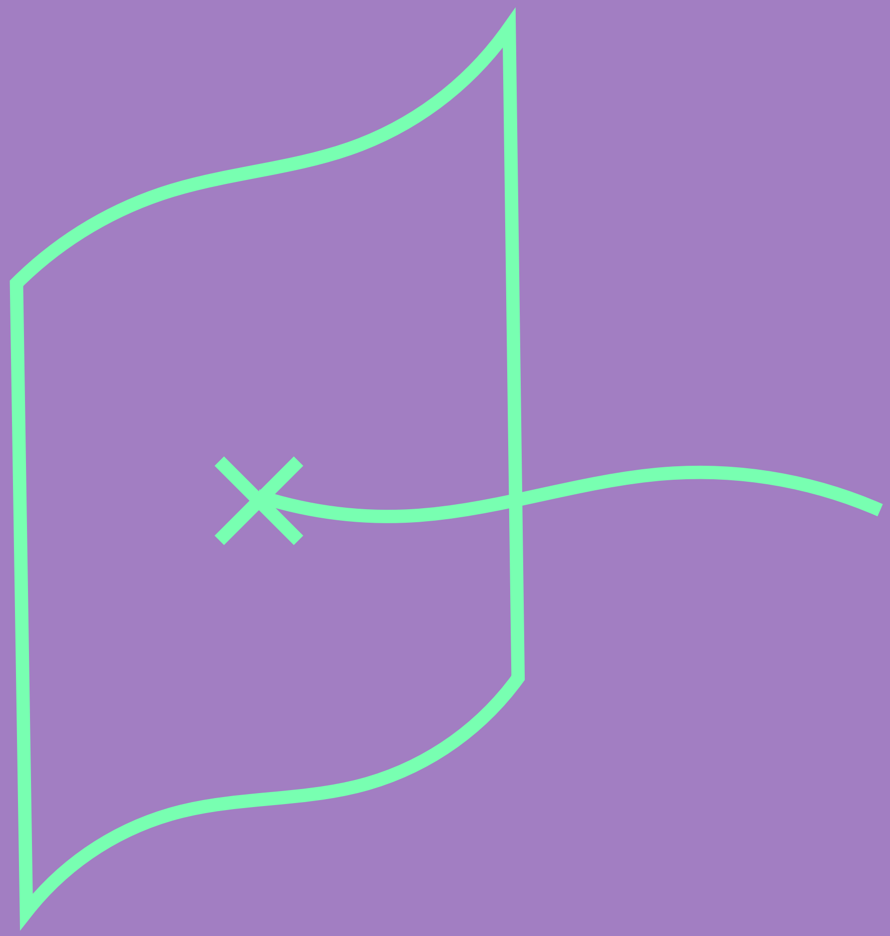
1904.05071 (with N. Lambert)
1911.11504
1912.02638 (with N. Lambert, A. Lipstein, P. Richmond)

Branes in String Theory



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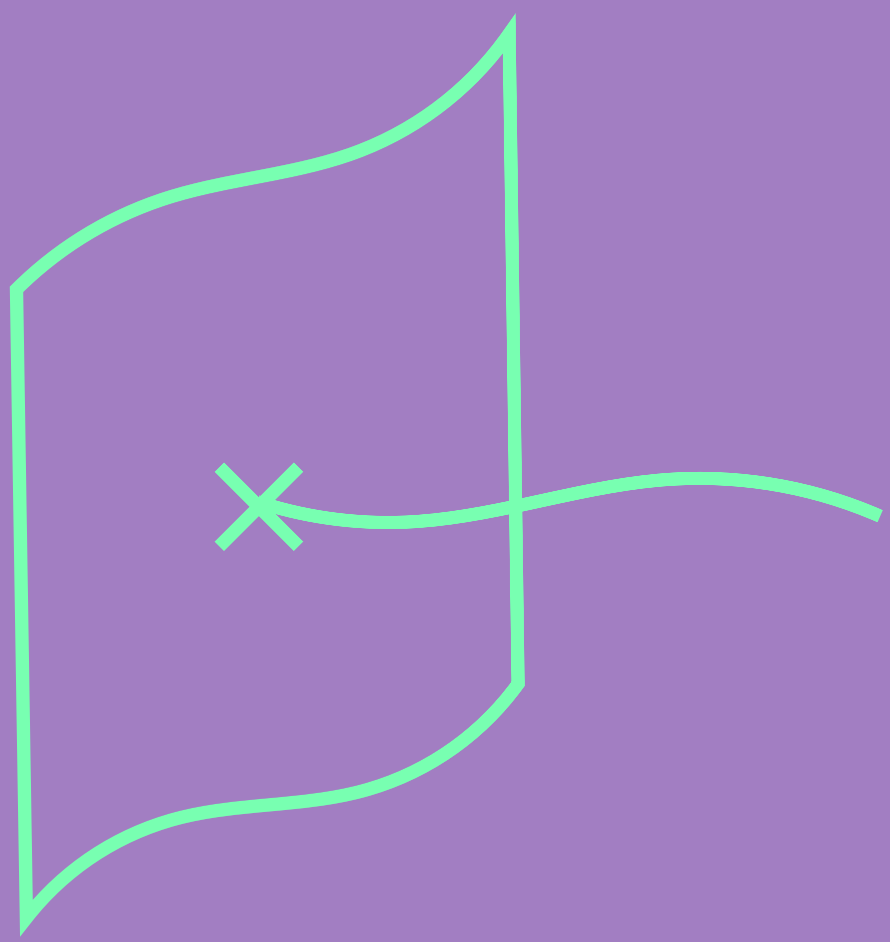

Worldvolume theory
(super-Yang-Mills)

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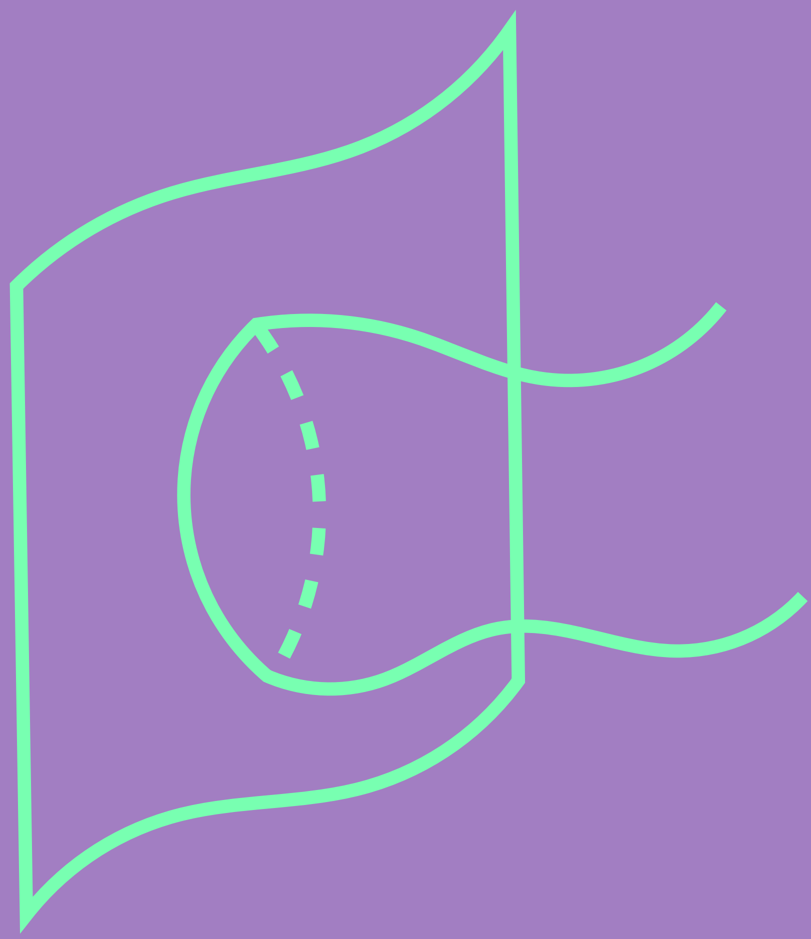

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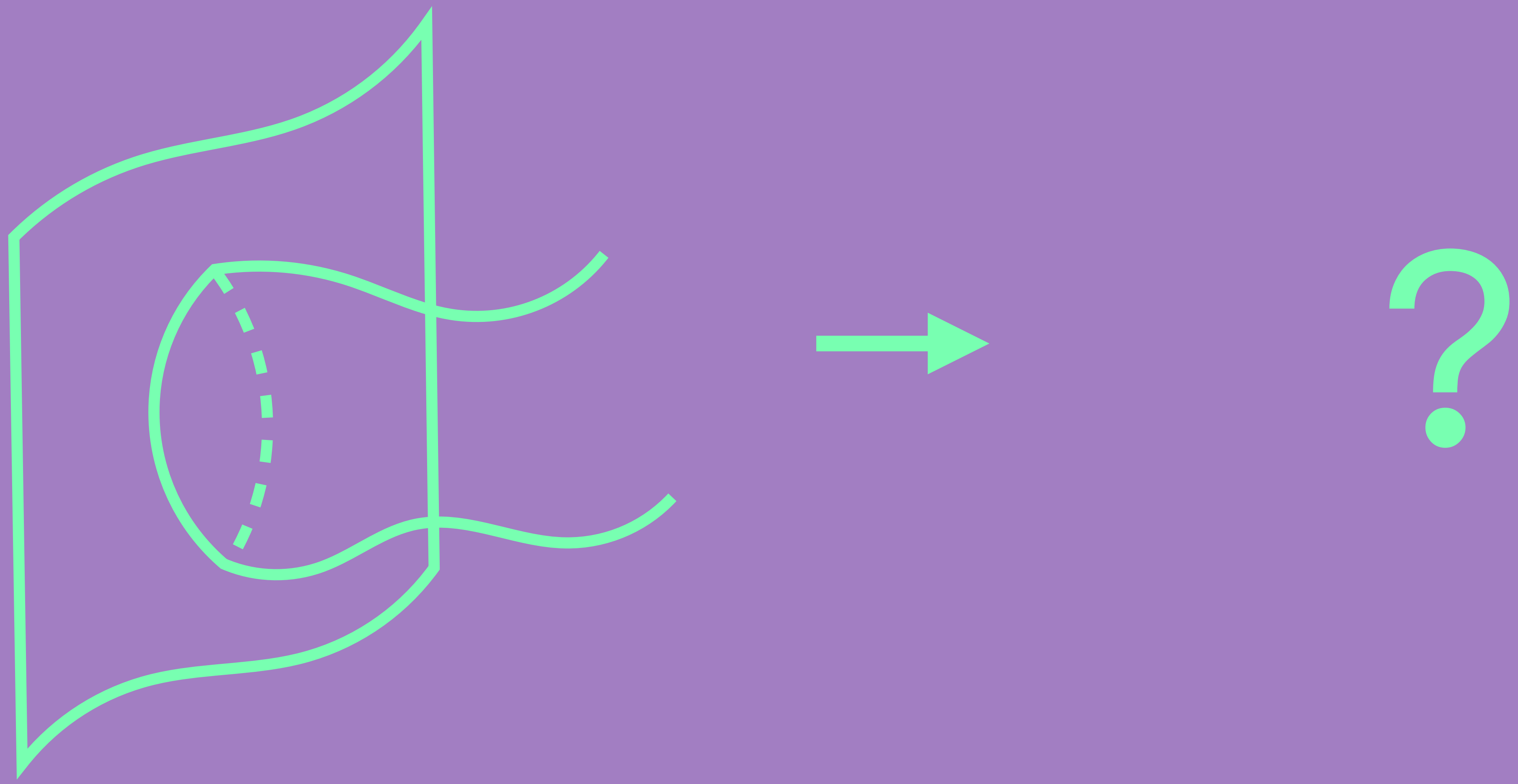

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- Strong coupling limit of a stack of D2-branes (3d MSYM)
- (2+1)-dimensional SCFT
- SO(8) R-symmetry
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- SO(5) R-symmetry
- (2,0) supersymmetry

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- Recent progress has been made by considering non-Lorentzian theories in 5 dimensions with a high degree of (super-)symmetry

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- General theory still reduces to quantum mechanics on a deformed version of ADHM (i.e. instanton) moduli space

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- Perform a similar null reduction to other SCFTs. For instance, with $\mathcal{N} = 4$ SYM, we would hope to recover a 3d view of integrability, S-duality…