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Kantaro Ohmori: Non-supersymmetric heterotic branes, bordisms, 2d SCFTs

Friday 1 September 2023 09:00 (1 hour)

The no-bordism conjecture by McNamara and Vafa states that the bordism group with tangential structure and branes (singularity types) for a consistent quantum gravity should vanish.

This predicted previously unknown non-supersymmetric branes in string theory which should cancel the apparently nontrivial bordism classes.

In this talk I will propose the worldsheet theories of a string in the throat region of some of the predicted new branes in heterotic string theory.

I will also describe the relation to Stolz-Teichner conjecture as a connection to Yamashita's talk.

The no-bordism conjecture by McNamara and Vafa states that the bordism group with tangential structure and branes (singularity types), for consistent quantum gravity, should vanish. As a corollary of the conjecture they predicted previously unknown non-supersymmetric branes in string theory, which are required to cancel the apparently nontrivial bordism classes. In this presentation, I will propose the worldsheet theories of a string in the throat region of some of the predicted branes in heterotic string theory.

Additionally, I will mention the relationship to the Stolz-Teichner conjecture and connect it to Yamashita's talk.