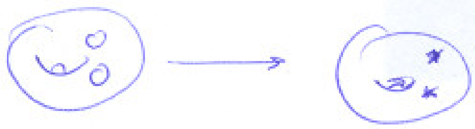
THE NEXT STEP: INTEGRATE OVER MODULI SPACE

(THIS WILL LIKELY FAIL, FOR INSTANCE FOR D-BRANES IN FLAT SPACE IN THE SENSE THAT THE CORRESPONDING CLOSED STRING VERTEX OPS. WON'T BE SIMPLE TO INTERPRET.)



$$\mathcal{M}^{open}_{g,h} \longrightarrow \mathbb{R}_+^h \otimes \mathcal{M}^{closed}_{g,h+p}$$

$\uparrow$

Do $\int [D\mathcal{M}^{open}]$ integral

BUT WE PREFER TO APPLY THIS TO AdS/CFT, NOT BRANES.

THE HOPE IS TO USE LIOUVILLE THEORY AS TOY MODEL FOR AdS/CFT

THE Liouville field, $\phi$, will represent the boundary of AdS as $\phi \to \infty$

$$S_{Liouville} = \int d^2 z \; \partial\phi \bar{\partial}\phi + \alpha R \phi + \mu e^{2b\phi}$$

$C_{matter} = -2$ (CENT. CHARGE)

$C_{Liouville} = 28$

THE CLOSED STRING VERTEX OPS (PUNCTURES) ARE BLOWN UP AS THE Liouville field $\phi \to \infty$.

(CHECK KONTSEVICH MATRIX INTEGRAL TRANSPARENCY)

↳ THIS IS AN OSFT FORMULATION, WITH A SET OF FEYNMAN RULES.

THE EXAMPLE $\langle \mathcal{O}_1 \mathcal{O}_1 \mathcal{O}_1 \rangle_{S_2}$ CAN BE EVALUATED WITH THESE RULES. THE RESULT SIMPLIFIES TO

$$Z^{closed}(t_a) = \langle \exp(t_a \mathcal{O}_{2k+1}) \rangle$$

$$\langle \theta_1 \theta_1 \theta_1 \rangle = \frac{1}{3!} \frac{\partial}{\partial t_0} \frac{\partial}{\partial t_0} \frac{\partial}{\partial t_0} \left( \frac{t_0^3}{3 g_s^2} \right) = \frac{1}{g_s^2} \quad !!$$

THE KONTSEVICH MATRIX INTEGRAL, & RELATION $t_a \leftrightarrow \tau_a$, DOES THE MODULI SPACE INTEGRAL, IN A SIMPLE WAY.

IT IS NATURAL TO CONSIDER THE ~~K~~KONTSEVITCH MODEL AS THE OSFT ON N STABLE FZZT ~~D~~-BRANES.

NEUMANN ALONG $\phi$, THE FZZT BRANES.

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