

Braun

IIB D7 O7 moduli = F geom moduli

F \boxtimes K3 \times K3 = IIB \boxtimes K3 \times $\mathbb{T}^2/\mathbb{Z}_2$

$$\text{IIB sugra } \mathfrak{H} \begin{cases} \mathfrak{O} & \mathcal{O} \\ \mathfrak{Z} & \mathcal{Z} \\ & \mathcal{A} \end{cases}$$

$$\tau = \mathcal{O} + i e^{-\mathcal{Q}}$$

$$\mathcal{L}_{10} = \mathfrak{R} - \frac{1}{2} (\mathcal{I}\tau)^{-2} \overline{\mathcal{O} + i e^{-\mathcal{Q}}}^2 + (\mathcal{I}\tau)^{-1} \overline{\mathcal{Z} - \tau \mathfrak{Z}} + \frac{1}{2} \mathcal{A} + \frac{1}{2} \overline{\left(\mathfrak{Z} \wedge \mathcal{Z} - \mathcal{Z} \wedge \mathfrak{Z} \right)}^2 + \mathfrak{Z} \wedge \mathfrak{Z} \wedge \mathcal{Z}$$

$$\text{even } D_{p-1} \text{ branes } \mathfrak{p} \begin{cases} \mathfrak{Q} \\ \mathfrak{Z} \end{cases}$$

int BI/ext CS

$$\mathcal{D}_p = \mathfrak{Q} \times \wedge \left(\mathcal{O} + * \overline{\mathcal{O}} + \mathcal{Z} + * \overline{\mathcal{Z}} + \mathcal{A} \right) \wedge e^{-\mathcal{Q} \times \mathfrak{Z}} \wedge \text{ch} \left(\mathfrak{Z} \right) \wedge \sqrt{\hat{A}(TD) / \hat{A}(ND)}$$

$$\text{D coupling } \int_{D_p^+} \mathfrak{Q} \times \mathcal{O}$$

$$\mathcal{O}_p = \mathfrak{O} \times \wedge \left(\mathcal{O} + * \overline{\mathcal{O}} + \mathcal{Z} + * \overline{\mathcal{Z}} + \mathcal{A} \right) \wedge \sqrt{L \left(\frac{1}{4} TO \right) / L \left(\frac{1}{4} NO \right)}$$

$$\text{O coupling } - \int_{O_p^+} \mathfrak{O} \times \mathcal{O}$$

D7 $\pm 32_{\mathbb{C}}^a$

hol involution

$$3_{\mathbb{C}}^{\pm} = \frac{1_{\mathbb{C}}^{-}}{2_{\mathbb{C}}^{+}}$$

O7 hol fixed points $\pm 32_{\mathbb{C}}^{+}$

D3 $\pm 00_{\mathbb{C}}$