

$$\Delta_{E_8} = -\frac{1}{12} \int_{\mathcal{F}} d\mu \, \Gamma_{(2,2)}(T,U) \, \frac{\hat{E}_2 E_4 E_6 - E_6^2}{\Delta} = \sum_{BPS} \left[ 1 + \frac{P_R^2}{4} \log \left( \frac{P_R^2}{P_L^2} \right) \right] + 72 \log \left( T_2 U_2 |\eta(T) \eta(U)|^4 \right) + \text{cte.}$$