

Schwarz

IIB massless string spectrum

$$+ \begin{matrix} \dot{1} & 1 \\ \dot{5} & 1 \end{matrix} \begin{cases} {}^p D_2^- \\ {}^p D_6^- \end{cases} \quad (p:q) \text{ D1/5 branes}$$

$SL_2^{\mathbb{Z}}$ action

$$ps - qr = 1 \text{ rel prime}$$

$$+ \begin{matrix} \dot{1} \\ \dot{0} \end{matrix} \text{ pq-string}$$

$$\left| + \begin{matrix} \dot{1} \\ \dot{0} \end{matrix} \right|^2 = \mathcal{Q} \overbrace{p - q\theta}^2 + \overline{\mathcal{Q}}^{-1} q^2$$

$$p = 1: \quad q = 0 \Rightarrow \left| + \begin{matrix} \dot{1} \\ \dot{0} \end{matrix} \right|^2 = \mathcal{Q} \text{ string coupling}$$