

$$D = 11 \text{ M theory } E_8^8 = \begin{cases} g \\ \cancel{\mathcal{X}} \\ \cancel{\mathcal{O}} \\ \cancel{\mathcal{Y}} \end{cases}$$

$$E_8^7 = \mathbb{R}_> = \begin{cases} g & 1 \\ \cancel{\mathcal{X}} & 0 \\ \cancel{\mathcal{O}} & 0 \\ \cancel{\mathcal{Y}} & 0 \end{cases}$$

$$E_8^6 = \mathbb{R}_> \times \frac{U_{1:1}^{\mathbb{C}}}{U_1^{\mathbb{C}}} = \begin{cases} g & 3 \\ \cancel{\mathcal{X}} & 0 \\ \cancel{\mathcal{O}} & 0 \\ \cancel{\mathcal{Y}} & 0 \end{cases}$$

$$E_8^5 = \frac{L_3^{\mathbb{R}}}{U_3^{\mathbb{R}}} \times \frac{U_{1:1}^{\mathbb{C}}}{U_1^{\mathbb{C}}} = \begin{cases} g & 6 \\ \cancel{\mathcal{X}} & 1 \\ \cancel{\mathcal{O}} & 0 \\ \cancel{\mathcal{Y}} & 0 \end{cases}$$

$$E_8^4 = \frac{L_5^{\mathbb{R}}}{U_5^{\mathbb{R}}} = \begin{cases} g & 10 \\ \cancel{\mathcal{X}} & 4 \\ \cancel{\mathcal{O}} & 0 \\ \cancel{\mathcal{Y}} & 0 \end{cases}$$

$$E_8^3 = \frac{U_{5:5}^{\mathbb{R}}}{U_5^{\mathbb{R}} \times U_5^{\mathbb{R}}} = \begin{cases} g & 15 \\ \cancel{\mathcal{X}} & 10 \\ \cancel{\mathcal{O}} & 0 \\ \cancel{\mathcal{Y}} & 0 \end{cases}$$

$$E_8^2 = \frac{E_6}{U_4^{\mathbb{H}}} = \begin{cases} g & 21 \\ \cancel{\mathcal{X}} & 20 \\ \cancel{\mathcal{O}} & 1 \\ \cancel{\mathcal{Y}} & 0 \end{cases}$$

$$E_8^1 = \frac{E_7}{U_8^{\mathbb{C}}} = \begin{cases} g & 28 \\ \mathcal{X} & 35 \\ \mathcal{Y} & 7 \\ \mathcal{Z} & 0 \end{cases}$$

$$E_8^0 = \frac{E_8}{U_{16}^{\mathbb{R}}} = \begin{cases} g & 36 \\ \mathcal{X} & 56 \\ \mathcal{Y} & 28 \\ \mathcal{Z} & 8 \end{cases}$$