

Sugiyama

G_2 holonomy \Rightarrow conf algebra

$$\text{holonomy reduction } \text{SO}_7/G_2 = \begin{cases} \text{tricritical Ising-model conf alg} \\ \text{Virasoro cc } \frac{7}{10} \\ \text{s-stress tensor } (T^{3I}; G^{3I}) \end{cases}$$

internal $7_{\mathbb{R}}^0$: G_2 holonomy

$$H_{\mathbb{R}}^*(7_{\mathbb{R}}^0) = \begin{cases} 11 \\ 00 \\ b_2 = b_5 \\ b_3 = b_4 \end{cases}$$

$$\chi = 0$$

point moduli $(7_{\mathbb{R}}^0)_{\text{geom}} \simeq H_{\mathbb{R}}^3(7_{\mathbb{R}}^0)$: \mathfrak{A} closed 3-form G_2 inv

$$7_{\mathbb{R}}^0 \text{ sigma model conf algebra } \begin{cases} (T; G) & \text{s-stress tensor} \\ (K; \mathfrak{A}) & \text{current spin } (2:3/2) \\ (*\mathfrak{A}; M) & \text{current spin } (2:5/2) \end{cases}$$

string moduli $(7_{\mathbb{R}}^0)_{\text{CFT}} \simeq H_{\mathbb{R}}^{2:3}(7_{\mathbb{R}}^0)$: $b_2 + b_3$