

$$D = 3$$

$$A_k^0 = SL_{k+1}(\mathbb{R})$$

$$\text{scalar coset } SL_{k+1}(\mathbb{R}) / O_k \cong \Phi$$

$$2(*\mathfrak{R}_3 - \mathcal{L}_3) - \frac{2}{\Phi} = \mathbf{e}^{b_i|\Phi} \frac{2}{\mathcal{X}_i} + \sum_{i < j} \mathbf{e}^{b_{ij}|\Phi} \frac{2}{\mathcal{Y}_j^i}$$

$$\text{pure gra } \mathfrak{R}_{k+3} / \mathbb{T}^k$$