

$$M \mathfrak{t} \frac{2}{5}$$

$$M \mathfrak{t} \frac{2}{5} \boxplus \frac{1_{\mathbb{C}}}{2_{\mathbb{C}}}$$

M2 branes BPS $\mathfrak{t} 2 \boxplus 1_{\mathbb{C}}$ mass $\overline{1_{\mathbb{C}}}$

vanishing 2 spheres

$$\mathbb{V}^a = 1_{\mathbb{C}}^a \vdash \mathcal{X} \text{ massless } U^{\mathbb{C}} \text{ gauge boson}$$

A2 branes

$$\mathbb{V}^a = 1_{\mathbb{C}}^a \vdash \mathcal{X} \text{ massless } U^{\mathbb{C}} \text{ gauge boson}$$

$$2_{\mathbb{C}}^{\mu} = \frac{z:w:\zeta \in \mathbb{C}^3}{z^2 + w^2 + \prod_i^n (\zeta - \mu_i) = 0} A_{n-1} \text{ ALE resolution}$$

$$A_{i_1 \dots i_k} \text{ sing} \Leftrightarrow \mu_{i_1} = \dots = \mu_{i_k} \Leftrightarrow \text{indep 2-cycles } 1_{\mathbb{C}}^{i_1 i_2} \dots 1_{\mathbb{C}}^{i_{k-1} i_k} \underset{\text{size}}{\rightsquigarrow} 0$$

$$H_2^{\mathbb{Z}} | 2_{\mathbb{C}}^0 = \mathbb{Z}^{k-1} = \langle 1_{\mathbb{C}}^{i_1 i_2} \dots 1_{\mathbb{C}}^{i_{k-1} i_k} \rangle A_{k-1} \text{ root lattice}$$

$$\mu_i = \mu_j \text{ Pic-Lef monodromy=Weyl reflection } S \rightsquigarrow S - S_{ij} \left(S | S_{ij} \right)$$

$$S_i | S_j = \text{Cartan matrix}$$

Monodromy group=Weyl group