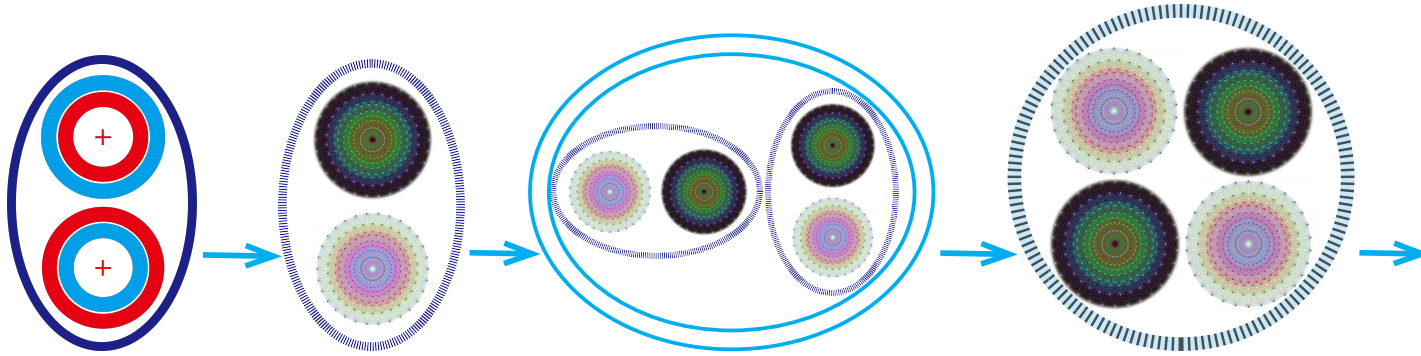


unitary group

$$\left\langle sHi_{D\sqrt{-1}}^{-Ma} \right|^2 \otimes \left| sHi_{D\sqrt{-1}}^{+Ka} \right\rangle^2 \Rightarrow 1 \equiv \begin{matrix} Ma \\ Ka \end{matrix} Hi_{D1}^{\pm}$$

bra - ket notation



$$\left\langle \begin{matrix} \infty \\ \partial \end{matrix} Ma_{D0}^{\pm} \middle| \begin{matrix} \infty \\ \partial \end{matrix} Ka_{D0}^{\pm} \right\rangle \rightarrow \left\langle sHi_{D\sqrt{-1}}^{-Ma} \middle| sHi_{D\sqrt{-1}}^{+Ka} \right\rangle \rightarrow \left(sHi_{D\sqrt{-1}}^{+Ma} \middle| sHi_{D\sqrt{-1}}^{-Ka} \right) \left(\frac{sHi_{D\sqrt{-1}}^{+Ma}}{sHi_{D\sqrt{-1}}^{-Ka}} \right) \rightarrow \begin{pmatrix} \boxed{sHi_{D\sqrt{-1}}^{-Ma}}_{11} & \boxed{sHi_{D\sqrt{-1}}^{+Ka}}_{12} \\ \boxed{sHi_{D\sqrt{-1}}^{-Ka}}_{21} & \boxed{sHi_{D\sqrt{-1}}^{+Ma}}_{22} \end{pmatrix} \rightarrow \begin{pmatrix} \boxed{Hi_{D1}^{-Ma}}_{11} & \boxed{Hi_{D1}^{+Ka}}_{12} \\ \boxed{Hi_{D1}^{-Ka}}_{21} & \boxed{Hi_{D1}^{+Ma}}_{22} \end{pmatrix} \rightarrow \begin{pmatrix} \boxed{Fu_{D2}^{-sanuki}}_{11} & \boxed{Fu_{D2}^{+awa}}_{12} \\ \boxed{Fu_{D2}^{-awa}}_{21} & \boxed{Fu_{D2}^{+sanuki}}_{22} \end{pmatrix} \rightarrow \begin{matrix} \boxed{\begin{matrix} makumi \\ amana \end{matrix} Mi_{D3}^{\pm}} \\ \boxed{\begin{matrix} karami \\ amana \end{matrix} Mi_{D3}^{\pm}} \\ \boxed{\begin{matrix} ikatsukumi \\ amana \end{matrix} Mi_{D3}^{\pm}} \end{matrix}$$

(2-4) Dimension 1 • Unitary group U (1) and Dimension 1