$$\text{unit alg } \mathbb{C}\triangle \ni \underset{\mathbb{N}}{\mathbb{C}} \urcorner_{\in}^{2} \mathbb{C}_2 = \mathbb{C}\frac{E_+ = E{:}E_- = F{:}q^h}{EF - FE = E_+ \times E_- = \dfrac{q^h - q^{-h}}{q - q^{-1}}{:} \quad q^h E q^{-h} = q^2 E{:} \quad q^h F q^{-h} = q^{-2} F} \text{ relations}$$

$$q^h = \begin{array}{c|c} q & 0 \\ \hline 0 & q^{-1} \end{array}$$

$$EF - FE = E_+ \times E_- = \frac{q^h - q^{-h}}{q - q^{-1}}$$

$$\begin{cases} q^h E q^{-h} & = q^2 E \\ q^h F q^{-h} & = q^{-2} F \\ q^h E_\pm q^{-h} & = q^{\pm 2} E_\pm \end{cases}$$

$$\underset{\mathbb{N}}{\mathbb{C}} \urcorner_{\in}^{2} \mathbb{C}_2 \boxtimes \underset{\mathbb{N}}{\mathbb{C}} \urcorner_{\in}^{2} \mathbb{C}_2 \xleftarrow{\Delta} \underset{\mathbb{N}}{\mathbb{C}} \urcorner_{\in}^{2} \mathbb{C}_2$$

$$K = q^{h/2}$$

$$\Delta E^{\pm} = E_\pm \boxtimes q^{h/2} + q^{-h/2} \boxtimes E_\pm$$

$$\Delta q^h = q^h \boxtimes q^h$$

$$\Delta E = E \boxtimes K + K^{-1} \boxtimes E$$

$$\Delta F = F \boxtimes K + K^{-1} \boxtimes F$$

$$\Delta K = K \boxtimes K$$

$$\underset{\mathbb{N}}{\mathbb{C}} \urcorner_{\in}^{2} \mathbb{C}_2 \xrightarrow[\text{antipode}]{S} \underset{\mathbb{N}}{\mathbb{C}} \urcorner_{\in}^{2} \mathbb{C}_2$$

$$\begin{cases} SE & = -qE \\ SF & = -q^{-1} F \\ SK & = K^{-1} \end{cases} \begin{cases} SE_\pm & = -q^{\pm} E_\pm \\ Sq^h & = q^{-h} \end{cases}$$

$$\text{Majid Ueno SchmII} \begin{cases} KE = qEK & KF = q^{-1} FK \\ E \times F & = \dfrac{K^2 - K^{-2}}{q - q^{-1}} \\ \Delta E = E \boxtimes K + K^{-1} \boxtimes E & \Delta F = F \boxtimes K + K^{-1} \boxtimes F \\ SE = -qE & SF = -q^{-1} F \end{cases}$$

$$\text{Kassel Shari SchmI}\begin{cases}\mathbb{K}\mathbb{E} = q^2\mathbb{E}\mathbb{K} & \mathbb{K}\mathbb{F} = q^{-2}\mathbb{F}\mathbb{K}\\ \mathbb{E}\ast\mathbb{F} & = \dfrac{\mathbb{K}-\mathbb{K}^{-1}}{q-q^{-1}}\\ \Delta\mathbb{E} = \mathbb{E}\boxtimes\mathbb{K} + \mathbb{I}\boxtimes\mathbb{E} & \Delta\mathbb{F} = \mathbb{F}\boxtimes\mathbb{I} + \mathbb{K}^{-1}\boxtimes\mathbb{F}\\ S\mathbb{E} = -\mathbb{E}\mathbb{K}^{-1} & S\mathbb{F} = -\mathbb{K}\mathbb{F}\end{cases}$$

$$\text{Zhang}\begin{cases}\mathcal{K}\mathcal{E} = q^2\mathcal{E}\mathcal{K} & \mathcal{K}\mathcal{F} = q^{-2}\mathcal{F}\mathcal{K}\\ \mathcal{E}\ast\mathcal{F} & = \dfrac{\mathcal{K}-\mathcal{K}^{-1}}{q-q^{-1}}\\ \Delta\mathcal{E} = \mathcal{E}\boxtimes\mathcal{I} + \mathcal{K}\boxtimes\mathcal{E} & \Delta\mathcal{F} = \mathcal{F}\boxtimes\mathcal{K}^{-1} + \mathcal{I}\boxtimes\mathcal{F}\\ S\mathcal{E} = -\mathcal{K}^{-1}\mathcal{E} & S\mathcal{F} = -\mathcal{F}\mathcal{K}\end{cases}$$

$$\begin{cases}\mathbb{E} = EK = \mathcal{F}\\ \mathbb{F} = K^{-1}F = \mathcal{E}\\ \mathbb{K} = K^2 = \mathcal{K}^{-1}\end{cases}$$