$$\widetilde{S}_j^{\mathbb{C}} = \frac{z \in Z^{\mathbb{C}}}{\mathrm{rk}\, z = j}$$

$$Z_1^e \xrightarrow{\text{vect}} \widetilde{S}_\ell \xrightarrow{\pi} \underset{\sim}{S}_\ell$$

$$\Omega_1^e \xrightarrow{\text{cone}} \widetilde{S}_\ell \xrightarrow{\pi} S_\ell$$

$$u \in S_\ell \subset Z$$

$$\underline{S_\ell}_u = i\, X_u^1 \times Z_u^{1/2}$$

$$p \in \Pi_\ell \subset X$$

$$\underline{\Pi_\ell}_p = X_p^{1/2}$$

$$T_\ell^{\mathbb{R}} = \partial_\ell \Omega = \bigcup_{p \in \Pi_\ell} \Omega_p^1$$

$$\underline{\partial_\ell \Omega}_{p:p} = \underline{\Pi_\ell}_p \times \underline{\Omega_p^1}_p = X_p^{1/2} \times X_p^1$$

$$S_\ell^{\mathbb{C}} = \bigcup_{U \in \mathbb{G}_\ell Z} \overset{\times}{B}{}_U^1$$

$$\underline{S_\ell^{\mathbb{C}}} = \underline{\mathbb{G}_\ell(Z)}_U \times U = Z_u^{1/2} \times Z_u^1$$

$$x \in X_\ell \Rightarrow \bigvee_p^{P_\ell} x \in X_p^1$$

$$x = \sum_i \lambda_i e_i$$

$$e_1 + \cdots + e_r = e$$

$$\lambda_i^3 = \lambda_i \Rightarrow \lambda_i = 0{:}1{:}-1$$

$$\Rightarrow x \in X^1_{e_1 + \cdots + e_\ell}$$

$$S_\ell^{\mathbb{R}} = \bigcup_{p \in \Pi_\ell} X_p^1$$