$$\text{constraint } \underline{L}_0 - \bar{\underline{L}}_0 = 1 \boxtimes \underbrace{\underline{L} \boxtimes \bar{\imath} - \underline{\imath} \boxtimes \bar{\underline{L}}}$$

$$\text{Hamiltonian } \underline{L}_0 + \bar{\underline{L}}_0 - 2 = P^2 \boxtimes \underline{\imath} \boxtimes \bar{\imath} + 1 \boxtimes \overbrace{\underline{L} - \underline{\imath}} \boxtimes \bar{\imath} + 1 \boxtimes \underline{\imath} \boxtimes \underbrace{\bar{\underline{L}} - \bar{\imath}}$$

$$\text{LHS} = P^2/2 \boxtimes \underline{\imath} \boxtimes \bar{\imath} + 1 \boxtimes \underline{L} \boxtimes \bar{\imath} + P^2/2 \boxtimes \underline{\imath} \boxtimes \bar{\imath} + 1 \boxtimes \underline{\imath} \boxtimes \bar{\underline{L}} - 2 \boxtimes \underline{\imath} \boxtimes \bar{\imath}$$

$$= P^2 \boxtimes \underline{\imath} \boxtimes \bar{\imath} + 1 \boxtimes \underline{L} \boxtimes \bar{\imath} - 1 \boxtimes \underline{\imath} \boxtimes \bar{\imath} + 1 \boxtimes \underline{\imath} \boxtimes \bar{\underline{L}} - 1 \boxtimes \underline{\imath} \boxtimes \bar{\imath} = \text{RHS}$$

$$z^{\underline{L}_0 + \bar{\underline{L}}_0 - 2} = z^{P^2} \boxtimes z^{\underline{L} - \underline{\imath}} \boxtimes z^{\bar{\underline{L}} - \bar{\imath}}$$

$$\text{poles of prop=phys states } \overbrace{\underline{L}_0 + \bar{\underline{L}}_0 - 2}\, \Phi = 0$$

$$\text{constraint } \overbrace{\underline{L}_0 - \bar{\underline{L}}_0} \Phi = 0\text{:} \quad \underset{\underline{\mathcal{F}}}{} \underset{0}{\boxtimes} \bar{\mathcal{F}}$$

$$z = r\, e^{it}$$

$$\underbrace{z^{\underline{L}} \boxtimes \bar{z}^{\bar{\underline{L}}}}\, \underbrace{\underline{\mathcal{F}} \underset{0}{\boxtimes} \bar{\mathcal{F}}} \sqsubset \underline{\mathcal{F}} \underset{0}{\boxtimes} \bar{\mathcal{F}}$$

$$\underbrace{z^{\underline{L}} \boxtimes \bar{z}^{\bar{\underline{L}}}}\, \underbrace{\underline{L} \boxtimes \bar{\imath} - \underline{\imath} \boxtimes \bar{\underline{L}}} = \underbrace{z^{\underline{L}} \underline{L}} \boxtimes \bar{z}^{\bar{\underline{L}}} - z^{\underline{L}} \boxtimes \underbrace{\bar{z}^{\bar{\underline{L}}} \bar{\underline{L}}}$$

$$\underbrace{\underline{L} \boxtimes \bar{\imath} - \underline{\imath} \boxtimes \bar{\underline{L}}}\, \underbrace{z^{\underline{L}} \boxtimes \bar{z}^{\bar{\underline{L}}}} = \underbrace{\underline{L} z^{\underline{L}}} \boxtimes \bar{z}^{\bar{\underline{L}}} - z^{\underline{L}} \boxtimes \underbrace{\bar{\underline{L}} \bar{z}^{\bar{\underline{L}}}}$$

$$\int\limits_{dz/\,\underline{z}\,\bar{z}}^{\mathbb{B}/4\pi} z^{\underline{L}_0 - 1}\, \bar{z}^{\bar{\underline{L}}_0 - 1} = \int\limits_{dz/\,\underline{z}\,\bar{z}}^{\mathbb{B}/4\pi} \underbrace{\sqrt{z}^{P^2} \boxtimes z^{\underline{L} - 1} \boxtimes \bar{\imath}}\, \underbrace{\sqrt{\bar{z}}^{P^2} \boxtimes \underline{\imath} \boxtimes \bar{z}^{\bar{\underline{L}} - 1}} = \int\limits_{dz/\,\underline{z}\,\bar{z}}^{\mathbb{B}/4\pi} \overline{z}^{P^2} \boxtimes z^{\underline{L} - 1} \boxtimes \bar{z}^{\bar{\underline{L}} - 1}$$

$$\frac{1}{2} \overbrace{L + \bar{\underline{L}} - 2}^{-1} = \frac{1}{2} \int\limits_{dr}^{0|1} r^{L + \bar{\underline{L}} - 3} \int\limits_{dt/2\pi}^{0 \,|\, \pi} \mathfrak{e}^{it \underline{L - \bar{L}}}$$