

$$\begin{array}{ccc}
L^2\left(S_\ell^{\mathbb{C}}\right) & \xleftarrow{\hat{U}_z} & L^2\left(S_\ell^{\mathbb{C}}\right) \\
P_z \downarrow & & \downarrow P \\
H_z & \xleftarrow{\hat{U}_z} & H_0
\end{array}$$

$$H_z \subset L^2\left(S_\ell^{\mathbb{C}}\right)$$

$$(H_z)_{z \in D}$$

$$H_z \xleftarrow[\text{proj}]{P_z} L^2\left(S_\ell^{\mathbb{C}}\right)$$

$$\begin{array}{ccccc}
L^2\left(S_\ell^{\mathbb{C}}\right) & \xleftarrow{\hat{U}_g} & L^2\left(S_\ell^{\mathbb{C}}\right) & \xleftarrow{\hat{U}_z} & L^2\left(S_\ell^{\mathbb{C}}\right) \\
P_{g \cdot z} \downarrow & & P_z \downarrow & & \downarrow P \\
H_{g \cdot z} & \xleftarrow{\hat{U}_g} & H_z & \xleftarrow{\hat{U}_z} & H_0
\end{array}$$