$$\text{enc}: \quad c_k = G\left[\vec{\alpha}_k \vec{e}_k z + J^k\right]$$

$$\text{dec}: \quad \hat{z} = \sum_k c_k d_k$$

$$r = f(z) = z_1 \cdot z_2$$

$$= \hat{z}_1 \cdot \hat{z}_2$$

$$\boxed{\hat{f}(z) = \sum_k c_k d_k^f}$$

$$\text{enc} \quad u_l = G\left[\alpha_l e_l r + J_l^b\right]$$

$$= G\left[\alpha_l e_l \sum_k c_k d_k^{\phi} + J_l^1\right]$$

$$= G\left[\sum_k W_{kl} c_k + J_l^b\right]$$

$$\left(\,f(z) = \sin(x+y)\,\right)$$