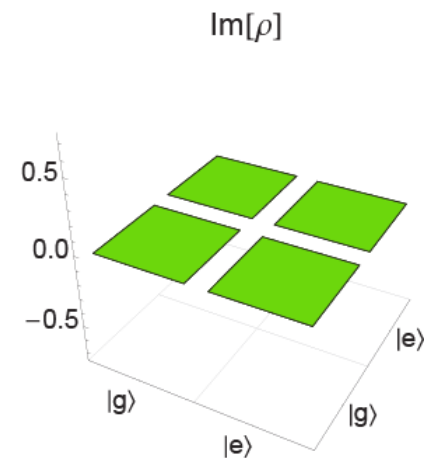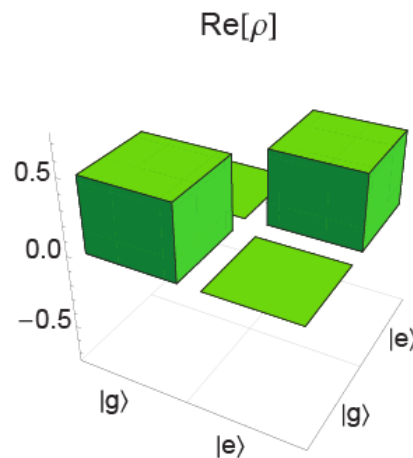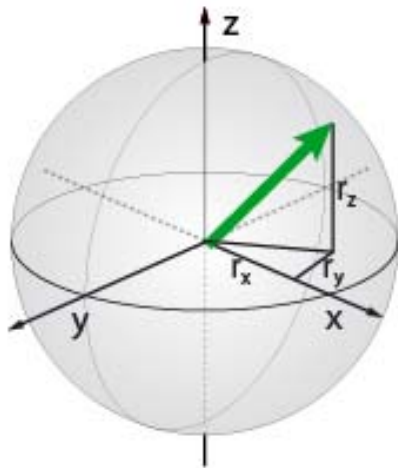# State reconstruction single qubit

3 measurements for 3 coefficients r_x, r_y, r_z of

$$\rho = \tfrac{1}{2}(\mathrm{id} + r_x\sigma_x + r_y\sigma_z + r_z\sigma_z)$$

State reconstruction single qubit

3 measurements for 3 coefficients r_x, r_y, r_z of

$$\rho = \tfrac{1}{2}(\mathrm{id} + r_x\sigma_x + r_y\sigma_z + r_z\sigma_z)$$

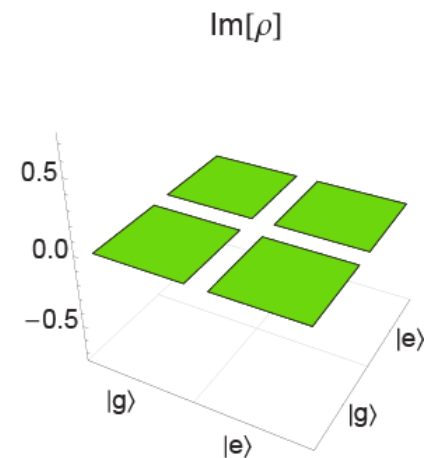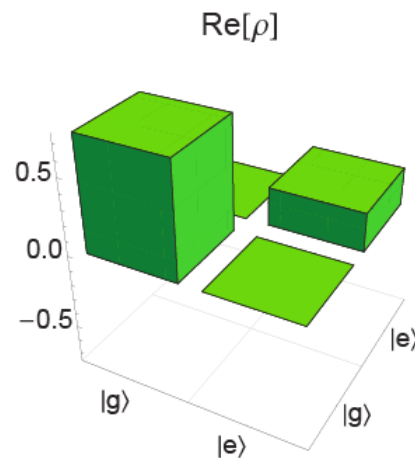- Measurement along z-axis: $r_z = \langle\sigma_z\rangle = \mathrm{Tr}[\rho\sigma_z]$
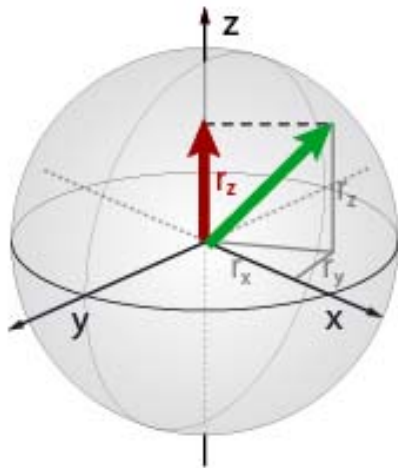
State reconstruction single qubit

3 measurements for 3 coefficients r_x, r_y, r_z of

$$\rho = \tfrac{1}{2}(\text{id} + r_x\sigma_x + r_y\sigma_z + r_z\sigma_z)$$

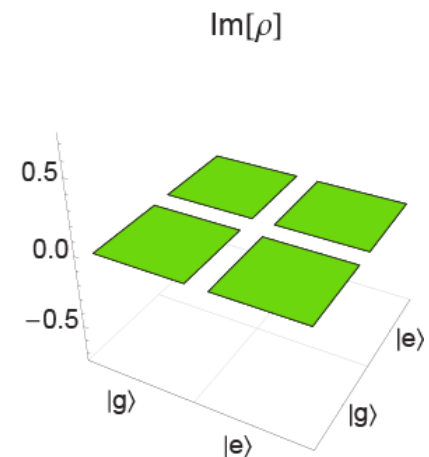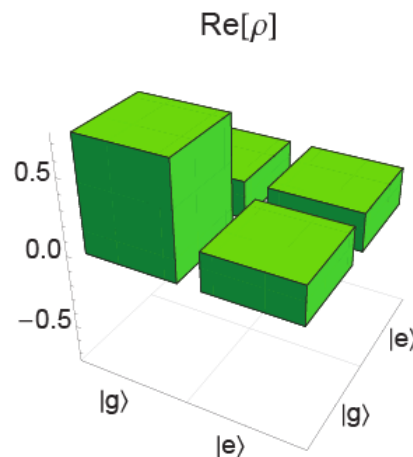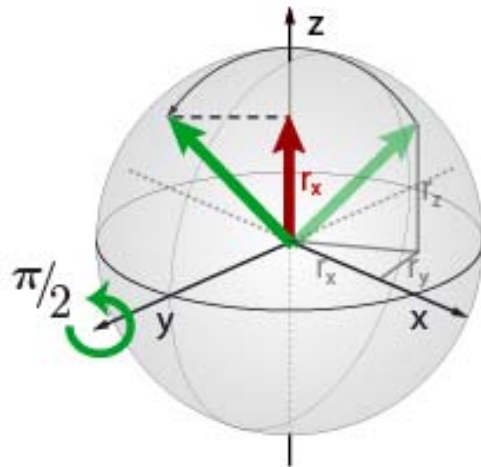- Measurement along z-axis: $r_z = \langle\sigma_z\rangle = \text{Tr}[\rho\sigma_z]$

- Rotation + measurement: $r_x = \langle\sigma_x\rangle = \text{Tr}[\left(\tfrac{\pi}{2}\right)_y \rho \left(\tfrac{\pi}{2}\right)_{-y} \sigma_z]$

State reconstruction single qubit

3 measurements for 3 coefficients r_x, r_y, r_z of

$$\rho = \tfrac{1}{2}(\mathrm{id} + r_x\sigma_x + r_y\sigma_z + r_z\sigma_z)$$

- Measurement along z-axis: $r_z = \langle\sigma_z\rangle = \mathrm{Tr}[\rho\sigma_z]$

- Rotation + measurement: $\quad r_x = \langle\sigma_x\rangle = \mathrm{Tr}[\left(\frac{\pi}{2}\right)_y \rho \left(\frac{\pi}{2}\right)_{-y} \sigma_z]$

- Rotation + measurement: $\quad r_y = \langle\sigma_y\rangle = \mathrm{Tr}[\left(\frac{\pi}{2}\right)_x \rho \left(\frac{\pi}{2}\right)_{-x} \sigma_z]$