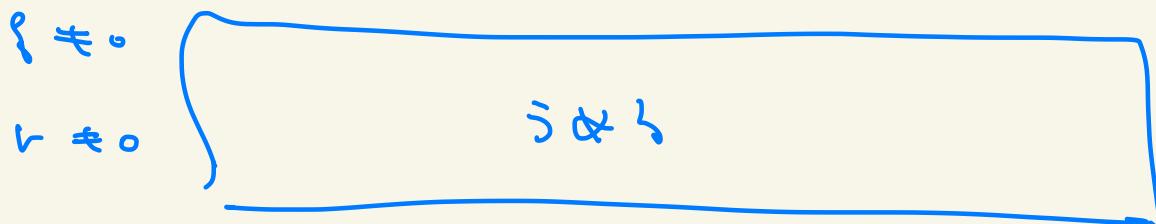


$$\alpha: \underbrace{px + gy + rz + s = 0}_{p \neq 0 \text{ 且 } r \neq 0} \quad \begin{pmatrix} p \\ g \\ r \end{pmatrix} \neq \vec{0}$$

$$p \neq 0 \text{ 且 } r \neq 0 \quad \left( -\frac{s}{p}, 0, 0 \right) \text{ 时} \quad \alpha \text{ 为直线}$$



直线

$$\exists (x_0, y_0, z_0) \text{ 使 } \alpha \ni \vec{x}_0 \in \text{直线}$$

$$\begin{aligned} & px + gy + rz + s = 0 \\ & px_0 + gy_0 + rz_0 + s = 0 \\ \rightarrow & p(x - x_0) + g(y - y_0) + r(z - z_0) = 0 \end{aligned}$$