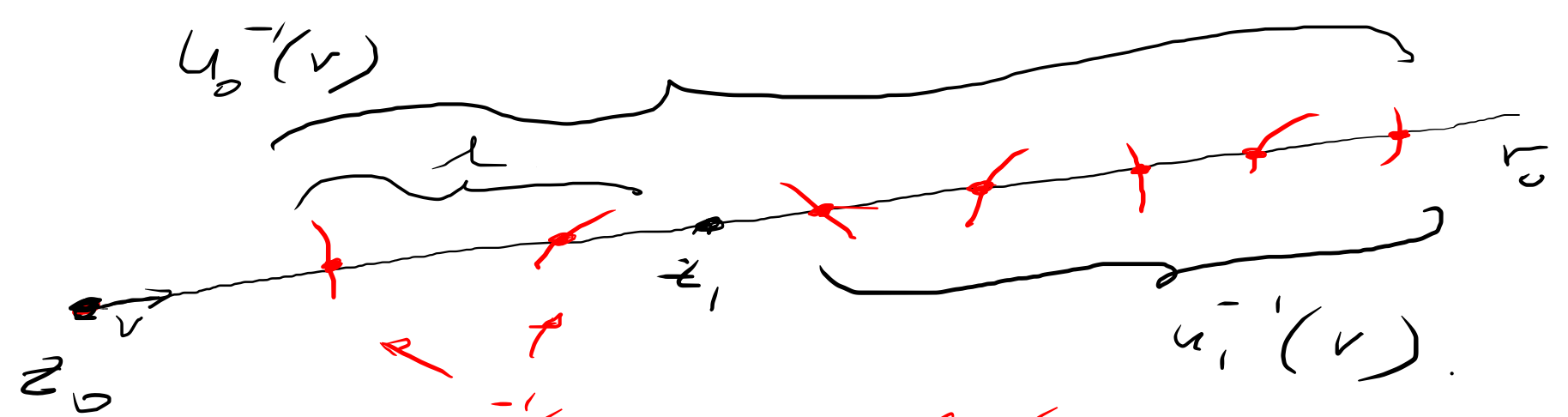
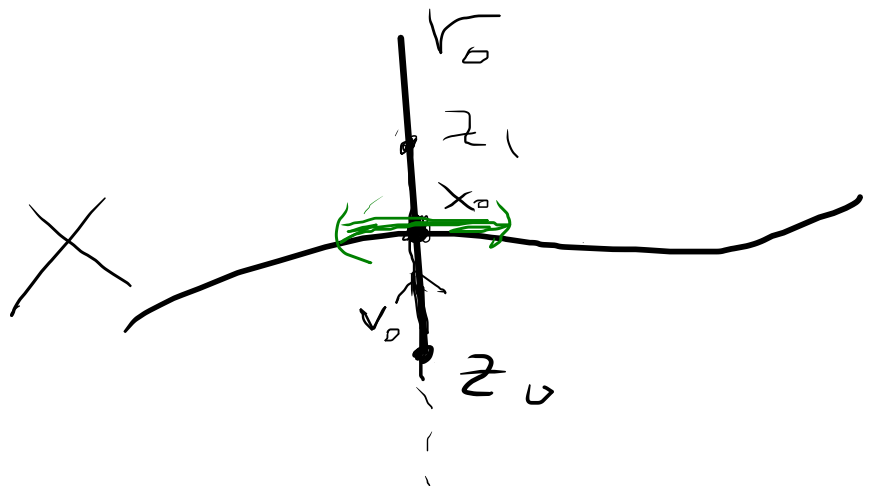


Demostración del índice g



$$\# \underset{\substack{\text{valor reg.}}}{U_0^{-1}(V)} = \text{grado}(U_0; X \rightarrow S^{n-1}) = W_2(z_0, X)$$

Demostración del inciso 9 (encontrar 2 puntos $z_0, z_1 \in \mathbb{R}^n \setminus X$
 + q. $W_2(z_0, X) \neq W_2(z_1, X)$)



$$z_0 = x_0 - t v_0$$

$$z_1 = x_0 + t v_0$$

$$t > 0$$

$$u_0(x) = v$$

$$v \perp T_x X$$

v es la

$$u_0: X \rightarrow S^{n-1}$$

x_0 es un punto reg.

$$du_0: T_{x_0} X \rightarrow T_{v_0} S^{n-1} \text{ es iso.}$$

\Rightarrow una rec. de x_0 en X ~~se~~ u_0 ~~se~~ \mapsto
 TFI la manda difeomorficamente a una rec. de v_0