Math 583

Homework due May 12

Part 2

Problem 4: Let $\Sigma \subset \mathbb{R}^n$ be such that $\forall Q \in \Sigma$

$$\lim_{r \to 0} \beta_\Sigma(Q, r) = 0 \quad \text{where} \quad \beta_\Sigma(Q, r) = \inf_{L \in G(n, n-1)} \sup_{y \in B(Q, r) \cap \Sigma} \frac{d(y, L)}{r}. \tag{1}$$

Prove that

$$\dim_{\mathcal{H}} \Sigma \leq n - 1. \tag{2}$$