Assume $\mu(\partial B + \varepsilon \,\text{Ball boundary}) \le K\varepsilon^{n+1}$

same constant K and all $\varepsilon \ge 0$

then

$$d(t_{mj}, \partial B) \le \sqrt{n}\, C_\varepsilon \,\mathrm{diam}(B_{mj})$$

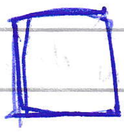
$$\le \sqrt{n}\, C_\varepsilon\, \delta \,\mathrm{diam}(B_{mj})$$

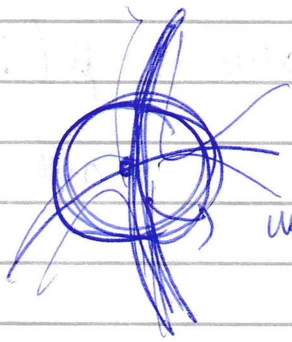
$$\Rightarrow P(A_{mj} \cap F_\varepsilon)$$

$$\le \int p_Z \mathbb{1}[Z \in \partial B + \sqrt{n}\, C_\varepsilon\, \delta_m^{1/(n+1)}\,\text{ball}]$$

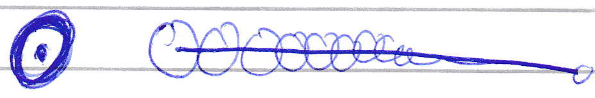
$$\le M\, \mu[\partial B + \sqrt{n}\, C_\varepsilon\, \delta_m^{1/(n+1)}\,\text{ball}]$$

$$\propto M\, \mathrm{diam}(B_{mj})^{n+1}$$





union of these



could consider a countable subset