Difference of random Cantor sets

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For some one parameter family φ_μ of $\mathcal{C}^3$ diffeomorphisms of the surface, Palis and Takens investigated the homoclinic tangencies and their unfolding. Under some generic assumptions it turns out that the set of those parameter values μ for which homoclinic tangency unfolds can be characterized as the algebraic difference

$$F_2 - F_1 = \{y - x : x \in F_1, y \in F_2\}$$

of two dynamically defined Cantor sets $F_1, F_2 \subset \mathbb{R}$. Palis conjectured that if

$$\dim_{\mathrm{H}} F_1 + \dim_{\mathrm{H}} F_2 > 1$$

then *generically* it should be true that

$$F_2 - F_1 \text{ contains an interval.}$$

For generic dynamically generated *non-linear* Cantor sets this was proved in 2001 by de Moreira and Yoccoz. The problem is open for generic linear Cantor sets. In this talk I will speak about related results for random Cantor sets.