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*On the Lagrange and Markov spectrum*

The complement  $M \setminus L$  of the Lagrange spectrum  $L$  in the Markov spectrum  $M$  was studied by many authors (including Freiman, Berstein, Cusick and Flahive). After their works, we dispose of a countable collection of points in  $M \setminus L$ .

In this talk, we describe the structure of  $M \setminus L$  near a non-isolated point  $\alpha_\infty$  found by Freiman in 1973, and we use this description to exhibit a concrete Cantor set whose Hausdorff dimension coincides with the Hausdorff dimension of  $M \setminus L$  near  $\alpha_\infty$ . A consequence of our results is the lower bound  $HD(M \setminus L) > 0.353$  on the Hausdorff dimension of  $M \setminus L$ . This is a joint work with C. G. Moreira.