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Adding pathological exhaustive submeasures

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Resumo

Maharam's problem is a problem concerning the existence of a very easily described function on the Cantor algebra. It was first asked in 1947 by Dorothy Maharam and turned out to be very difficult. The problem was interesting because it cropped up in many different areas of mathematics. Following sixty years of consistent effort, by many mathematicians, Michel Talagrand settled this problem in the negative. Talagrand's solution is also very difficult! It is still a mystery as to what exactly is the theory concerning the functions considered by Maharam. Consequently, trying to find alternative solutions to Maharam's problem is still a valid research objective. In this talk we present one such attempt. We will show that via the theory of forcing one can add a function very close to the one constructed by Talagrand. We hope to elaborate on this naive approach to provide a new proof of Maharam's problem and hopefully one that is easier to understand. This is (of course) work in progress.