April 28, 2009.

<u>A PhD thesis endorsement for A. Procházka</u>

To the PhD examination committee:

Antonín Procházka has worked towards his PhD under my supervision for the past three years, in the joint program with Universite de Bordeaux and his French supervisor there Prof. R. Deville. His PhD thesis is based on four original papers. Three of those have already been published/accepted for publication in prestigeous international journals: J. Funct. Anal., J. Math. Anal. and Appl., Proc. AMS. The last one is submitted to Trans. AMS. Each paper is devoted to a separate topic, without a significant interconnection with the rest. In order to achieve such diversity, Procházka had to master the topics of RNP Banach spaces, topological games, variational principles in Banach spaces, Szlenk index, and the fundamental renorming techniques. Let me briefly comment on two of the papers, which resulted from my supervision. In a joint work with Lancien and myself, a precise value of the dentability index for the class $C(\alpha)$ spaces, α a countable ordinal, has been computed. This is a critical class of spaces to be considered, as is well-known from the general theory of Szlenk index. The second paper, jointly with myself, solves several well-known renorming problems, one of them from the authoritative monograph of Deville, Godefroy and Zizler. In particular a LUR and C^k-approximable renorming is constructed on all WCG spaces admitting a C^k-smooth renorming. The proof of this result takes some twenty pages of subtle hard analysis, drawing on a multitude of known renorming results and techniques.

Summing up, Procházka is a gifted young mathematician, very strong in subtle analytic work. In my opinion Antonín belongs among the most promising young Czech analysts. The results contained in his PhD thesis clearly exceed the usual standards.

Dear colleagues, I thank you so much for your attention to my letter.

Sincerely yours,

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