

# An Asplund space with norming M-basis that is not WCG

*Tommaso Russo\**, Petr Hájek, Jacopo Somaglia,  
Stevo Todorčević

tommaso.russo.math@gmail.com,  
hajek@math.cas.cz,  
jacopo.somaglia@unimi.it,  
stevo@math.utoronto.ca, stevo.todorcevic@imj-prg.fr

We construct [1] an Asplund Banach space  $\mathcal{X}$  with a norming Markušević basis such that  $\mathcal{X}$  is not weakly compactly generated. This solves a long-standing open problem from the early nineties, originally due to Gilles Godefroy. En route to the proof, we construct a peculiar example of scattered compact space, that also solves a question in Descriptive Topology due to Wiesław Kubiś and Arkady Leiderman.

- [1] P. HÁJEK, T. RUSSO, J. SOMAGLIA, AND S. TODORČEVIĆ, *An Asplund space with norming Markušević basis that is not weakly compactly generated*, Adv. Math., 392 (2021), paper no. 108041, pp. 22.