

## Some Results on the Schroeder–Bernstein Property for Separable Banach Spaces

Valentin Ferenczi and Elói Medina Galego

*Abstract.* We construct a continuum of mutually non-isomorphic separable Banach spaces which are complemented in each other. Consequently, the Schroeder–Bernstein Index of any of these spaces is  $2^{\aleph_0}$ . Our construction is based on a Banach space introduced by W. T. Gowers and B. Maurey in 1997. We also use classical descriptive set theory methods, as in some work of the first author and C. Rosendal, to improve some results of P. G. Casazza and of N. J. Kalton on the Schroeder–Bernstein Property for spaces with an unconditional finite-dimensional Schauder decomposition.

---

Received by the editors July 9, 2004; revised May 13, 2005.

The first author was supported by FAPESP Grant 2002/09662-1.

AMS subject classification: 46B03, 46B20.

Keywords: complemented subspaces, Schroeder–Bernstein property.

©Canadian Mathematical Society 2007.