1015-46-147

Adi Tcaciuc\* (tcaciuc@math.ualberta.ca), 632 CAB, Department Mathematical Sciences, University of Alberta, Edmonton, Alberta T6G 2G1, Canada. On the existence of asymptotic- $l_p$  structures in Banach spaces.

The asymptotic theory of infinite dimensional Banach spaces, developed by Maurey, Milman and Tomczak-Jaegermann, is concerned with the structure of infinite dimensional Banach spaces manifested in the finite-dimensional subspaces that appear everywhere far away in the space. The class of spaces that have a simple asymptotic structure, in the sense that we can find a  $1 \le p \le \infty$  such that all such finite-dimensional subspaces as before are essentially  $l_p^n$ 's, are of special interest and they are called asymptotic- $l_p$  spaces.

We prove that if a Banach space is saturated with infinite dimensional subspaces in which all special n-tuples of vectors are equivalent, uniformly in n, then the space contains asymptotic- $l_p$  subspaces, for some  $1 \le p \le \infty$ . The proof reflects a technique used by Maurey in the context of unconditional basic sequence problem and extends a result by Figiel, Frankiewicz, Komorowski and Ryll-Nardzewski.

(Received February 02, 2006)