COMPLEMENTARITY OF SUBSPACES OF $\ell_\infty$ REVISITED

RYOTARO TANAKA

Abstract. We present a simple criterion for complementarity of subspaces of $\ell_\infty$ induced by certain bounded linear operators. As applications, it is shown that some typical and well-known subspaces such as mean or almost convergent sequence spaces are uncomplemented in $\ell_\infty$. We also note that there exists a weak$^*$ closed uncomplemented subspace of $\ell_\infty$.


Keywords and phrases: Complemented subspace, matrix representation, bounded sequence, mean convergence, almost convergence.

REFERENCES