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Frank Sanacory* (sanacoryf@oldwestbury.edu), SUNY - College at Old Westbury, Math and CIS Department, PO Box 210, Old Westbury, NY 11568. *Noncompact Operators on a Banach Space*.

Is there an infinite dimensional Banach space X on which every bounded linear operator can be decomposed as a compact perturbation of a multiple of the identity? Known as the scalar-plus-compact problem posed by J. Lindenstrauss. The question relates directly to the general structure of the space of operators on a Banach space, as well as to the Invariant subspace problem for Banach spaces. In 2001, G. Androulakis and Th. Schlumprecht showed the space of linear operators on the Gowers-Maurey space does not have such a decomposition. This space is the famous first example of an hereditarily indecomposable space and is the natural candidate. K. Beanland in 2007 gave sufficient conditions on a class of hereditarily indecomposable Banach spaces to again guarantee the space of bounded linear operators does not have such a decomposition. Here we will examine these two methods and discuss a unification of the two methods. (Received September 19, 2007)