1046-47-1577   **Pekka J. Nieminen*** (`pjniemin@cc.helsinki.fi`), Department of Mathematics and Statistics, University of Helsinki, PO Box 68, 00014 Helsinki, Finland. *Compact approximation of integral operators with applications to composition operators.*

It is known that every linear operator acting between L^1 spaces of compact metric measure spaces can be represented as an integral operator with respect to a stochastic kernel. In 1984 Lutz Weis showed how this representation can be used to construct a best weakly compact approximation for the operator.

We provide a modification of Weis's method and seek conditions under which it yields a best compact approximation. As applications we derive formulas for the essential and weak essential norms of (weighted) analytic composition operators and their differences. (Received September 16, 2008)