999-46-64 **Marius Dadarlat***, Department of Mathematics, Purdue University, West Lafayette, IN 47906.
On the topology of the Kasparov groups and its applications.

In this paper we establish a direct connection between stable approximate unitary equivalence for $*$-homomorphisms and the topology of the KK-groups which avoids entirely C*-algebra extension theory and does not require nuclearity assumptions. To this purpose we show that a topology on the Kasparov groups can be defined in terms of approximate unitary equivalence for Cuntz pairs and that this topology coincides with both Pimsner's topology and the Brown-Salinas topology. We study the generalized Rørdam group $KL(A,B) = KK(A,B)/\bar{0}$ and prove that if a separable exact residually finite dimensional C*-algebra satisfies the universal coefficient theorem in KK-theory then it embeds in the UHF algebra of type 2^∞. In particular such an embedding exists for the C*-algebra of a second countable amenable locally compact maximally almost periodic group. (Received August 03, 2004)