E_0–SEMIGROUPS FOR CONTINUOUS PRODUCT SYSTEMS: THE NONUNITAL CASE

MICHAEL SKEIDE

Communicated by M. Frank

ABSTRACT. Let $\mathcal{B}$ be a σ–unital C^*–algebra. We show that every strongly continuous E_0–semigroup on the algebra of adjointable operators on a full Hilbert $\mathcal{B}$–module E gives rise to a full continuous product system of correspondences over $\mathcal{B}$. We show that every full continuous product system of correspondences over $\mathcal{B}$ arises in that way. If the product system is countably generated, then E can be chosen countably generated, and if E is countably generated, then so is the product system. We show that under these countability hypotheses there is a one-to-one correspondence between E_0–semigroups up to stable cocycle conjugacy and continuous product systems up to isomorphism. This generalizes the results for unital $\mathcal{B}$ to the σ–unital case.

Università degli Studi del Molise, Dipartimento S.E.G.e S., Via de Sanctis, 86100 Campobasso, Italy.

E-mail address: skeide@unimol.it