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Radu Popescu* (popescu@math.ist.utl.pt), Departamento de Matematica, Instituto Superior Tecnico, av Rovisco Pais, 1049-001 Lisboa, Portugal. *K-theory for non-Hausdorff groupoids*.

The holonomy groupoid of a foliation can easily fail to be Hausdorff, even though every element still has a Hausdorff neighborhood. For groupoids of this kind, a convolution algebra construction was defined by A. Connes, and was further studied by G. Skandalis, A. Paterson, and others. We present an equivariant KK -theory with respect to such groupoids, and prove its properties. The main application is to the Baum-Connes conjecture. (Received September 19, 2007)