1096-46-1852 **Kenneth J Dykema** and **Claus Koestler*** (claus@ucc.ie), School of Mathematical Sciences, University College Cork, Western Gateway Building, Western Road, Cork, Ireland, and **John D Williams**. *Quantum symmetric states on free product C*-algebras.*

We introduce quantum symmetric states on the infinite universal free product of a C*-algebra with itself as a generalization of the notion of quantum exchangeable random variables. Extending and building on the noncommutative de Finetti theorem of Köstler and Speicher, we prove a de Finetti type theorem that characterizes quantum symmetric states in terms of amalgamated free products over the tail algebra. Furthermore we develop a convenient description of the set of all quantum symmetric states. In other words, our results provide in free probability the counterpart to Størmer's work on symmetric states of infinite tensor products of C*-algebras. The convex structure of this set of all quantum symmetric states can be further studied (see Dykema's consecutive talk in this special session). (Received September 16, 2013)