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Kaifeng Bu, **Arthur Jaffe** and **Zhengwei Liu*** (zhengweiliu@fas.harvard.edu), 17 Oxford Street, Cambridge, MA 02138, and **Jinsong Wu**. *A de Finetti theorem on parafermion algebras*. Preliminary report.

The de Finetti theorem is a powerful tool relating symmetry and independence of random variables. It also plays a significant role in quantum information theory. We prove a new de Finetti theorem on non-commutative parafermion algebras, with respect to the natural braid-group symmetry. We show that a braid-invariant state is extremal if and only if it is a product state. Furthermore, we provide an explicit characterization of braid-invariant states, such that the parafermion algebra generates a factor under the Gelfand-Naimark-Segal construction. (Received January 18, 2018)