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Marcus J. Pivato* (marcuspivato@trentu.ca), Department of Mathematics, Trent University,
1600 West Bank Drive, Peterborough, Ontario K9J 7B8, Canada. *Module Shifts and Measure
Rigidity in Linear Cellular Automata.*

Let \mathcal{R} be a finite commutative ring of prime characteristic, let \mathcal{A} be a finite \mathcal{R} -module, let $\mathbb{M} := \mathbb{Z}^D \times \mathbb{N}^E$, and let Φ be an \mathcal{R} -linear cellular automaton on $\mathcal{A}^{\mathbb{M}}$. If μ is a Φ -invariant measure which is multiply σ -mixing in a certain way, then we show that μ must be the Haar measure on a coset of some submodule shift of $\mathcal{A}^{\mathbb{M}}$. Under certain conditions, this means μ must be the uniform Bernoulli measure on $\mathcal{A}^{\mathbb{M}}$. (Received September 14, 2007)