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Rolando de Santiago* (rolando-desantiago@uiowa.edu), **Ionut Chifan**, **Sujan Pant** and **Thomas Sinclair**. *Product Rigidity for the von Neumann algebras of hyperbolic groups.*

Let $\Gamma_1, \dots, \Gamma_n$ be hyperbolic ICC groups and denote by $\Gamma = \Gamma_1 \times \dots \times \Gamma_n$. We show whenever Λ is an arbitrary discrete group such that $L(\Gamma) \cong L(\Lambda)$ then $\Lambda = \Lambda_1 \times \dots \times \Lambda_n$ and up to amplifications $L(\Gamma_i) \cong L(\Lambda_i)$ for all i ; in other words the von Neumann algebra $L(\Gamma)$ completely remembers the product structure of the underlying group.

In addition, we will show that some of the techniques used to prove this product rigidity result can also be successfully applied to produce new examples of prime factors. In particular, we significantly generalize the primeness results obtained earlier by I. Chifan, Y. Kida and S. Pant for the factors arising poly-hyperbolic and surface braid groups.

These are joint works with I. Chifan and T. Sinclair, and S. Pant, respectively. (Received September 20, 2016)