1106-47-463 **Niels Meesschaert*** (niels.meesschaert@wis.kuleuven.be) and **Stefaan Vaes**. *Partial classification of the Baumslag-Solitar group von Neumann algebras.*

For all $n, m \in \mathbb{Z} \setminus \{0\}$, the *Baumslag-Solitar group* $\mathrm{BS}(n,m)$ is defined by the presentation

$$\mathrm{BS}(n,m) := \langle a, b \mid ba^n b^{-1} = a^m \rangle \ .$$

These groups were introduced by Baumslag and Solitar to provide the first examples of finitely presented non-Hopfian groups. We prove that the rational number $|n/m|$ is an invariant of the group von Neumann algebra of the Baumslag-Solitar group $\mathrm{BS}(n,m)$. More precisely, if $L(\mathrm{BS}(n,m))$ is isomorphic with $L(\mathrm{BS}(n',m'))$, then $|n'/m'| = |n/m|^{\pm 1}$. We obtain this result by associating to abelian, but not maximal abelian, subalgebras of a II_1 factor, an equivalence relation that can be of type III. In particular, we associate to $L(\mathrm{BS}(n,m))$ a canonical equivalence relation of type $\mathrm{III}_{|n/m|}$. (Received August 29, 2014)