IMS September Meeting 2007 Seminar

Title: The equation $x^p y^q = z^r in tree - free groups$

Speaker: S. O'Rourke

Date: Mon 3rd September 2007 at 12:00PM

Location: ENG226

Abstract: It is a classical result due to Lyndon and Schützenberger that in a free group, solutions of the equation ¡span class="cmmi-12"¿x¡/span¿¡sup¿¡span class="cmmi-8"¿p¡/span¿¡/sup¿¡span class="cmmi-12"¿y¡/span¿¡sup¿¡span class="cmmi-8"¿q¡/span¿¡/sup¿ = ¡span class="cmmi-12"¿z¡/span¿¡sup¿¡span class="cmmi-8"¿r¡/span¿¡/sup¿ commute for integers ¡span class="cmmi-12"¿p,q,r ¡/span¿¡span class="cmsy-10x-x-120"¿x2265; ¡/span¿2. Groups that admit a free action (without inversions) on a x039B;-tree for some ordered abelian group x039B; 8212; so-called ¡span class="cmti-12"¿tree-free ¡/span¿groups 8212; are a natural generalisation of free groups, and they satisfy many of the same properties as free groups. On the other hand this class properly contains fully residually free groups (called limit groups by Sela). ¡!–l. 73–¿¡p class="indent"¿ In this talk we will discuss the extent to which the result of Lyndon and Schützenberger extends to tree-free groups. ¡!–l. 76–¿¡p class="indent"¿ This is joint work with N. Brady, L. Ciobanu and A. Martino.

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