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Olga Kharlampovich* (olga@math.mcgill.ca), 805 Sherbrooke St. West, Montreal, QC H3A2K6, Canada. *Equations in torsion free hyperbolic groups*. Preliminary report.

Razborov described an algorithm whose output gives a parametrization of the entire solution set to a system of equations over a free group, Myasnikov and I refined this algorithm to obtain a description in terms of Hom-diagrams. Rips and Sela proved that it is possible to decide if a system of equations over a torsion-free hyperbolic group G has a solution. Many algorithms for equations over G were constructed by Dahmani, Groves, Wilton. Sela proved that for the entire solution set of a system over G there exists a description similar to the description for a free group. We will describe an algorithm to obtain a Hom-diagram for G . (Received March 30, 2010)