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Arman Darbinyan* (arman.darbinyan@vanderbilt.edu), 1023 17th Ave South, apt #103,
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We study word and conjugacy problems in lacunary hyperbolic groups (briefly, LHG) from different perspectives: from the perspective of the relationship between WP and CP in LHGs; from the perspective of computability and from the perspective of computational complexity. In particular, we describe "if and only if" conditions for decidability of the word problem in LHGs. Then we formulate special small cancellation conditions which allow us to build a rich class of LHGs with highly controllable word and conjugacy problems. Careful examination of this class allows us to formulate several interesting applications as well as to answer several open questions. (Received February 24, 2017)