Traces, Cross-Ratios and 2-Generator Subgroups of SU(2, 1)

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Abstract. In this work, we investigate how to decompose a pair \((A, B)\) of loxodromic isometries of the complex hyperbolic plane \(H^2_C\) under the form \(A = I_1I_2\) and \(B = I_1I_2\), where the \(I_i\)'s are involutions. The main result is a decomposability criterion, which is expressed in terms of traces of elements of the group \(\langle A, B \rangle\).