1036-20-95 **Ara Basmajian** and **Bernard Maskit*** (bernie@math.sunysb.edu), Math. Dept., Stony Brook University, Stony Brook, NY 11794-3651. *Commutators in Groups of Hyperbolic Motions.* Preliminary report.

It is well known that, in dimensions 2 and 3, if A and B are orientation-preserving hyperbolic isometries, then we can find involutions α, β and γ, so that $A = \alpha\beta$ and $B = \beta\gamma$; then $AB = \alpha\gamma$, and the commutator $[A, B^{-1}] = [\alpha\beta, \gamma\beta] = (\alpha\beta\gamma)^2$. For higher dimensions, it is known that, in general, given A and B, one cannot find involutions α, β and γ, so that $A = \alpha\beta$, and $B = \beta\gamma$. However we do show that, in all dimensions $ge2$, given any orientation-preserving hyperbolic isometry C, there are involutions α, β and γ, so that $C = (\alpha\beta\gamma)^2 = [\alpha\beta, \gamma\beta]$. We also explore more specialized questions, such as: when can we write C in the form $C = [A, B]$, where A and B are conjugate involutions. (Received January 16, 2008)