

**Meeting:** 999, Nashville, Tennessee, SS 10A, Special Session on Geometry of Hyperbolic Manifolds

999-57-231            **Anne Garrison** and **Richard Scott\*** (rscott@math.scu.edu). *Small covers of regular right-angled hyperbolic polytopes.*

Let  $P$  be a right-angled regular polytope in hyperbolic  $n$ -space  $\mathbf{H}^n$  and let  $W$  be the group generated by reflections across the codimension-one faces of  $P$ . We show that if  $\Gamma$  is a torsion free subgroup of minimal index in  $W$ , then the hyperbolic manifold  $M = \mathbf{H}^n/\Gamma$  is uniquely determined up to isometry by  $\Gamma$  modulo symmetries of  $P$ . In particular, we show that there are exactly 25 such manifolds when  $P$  is a dodecahedron. (Received August 24, 2004)