1106-53-620 **Carolyn Gordon***, csgordon@dartmouth.edu, and **Michael Jablonski**. *Einstein solvmanifolds have maximal symmetry.* Preliminary report.

We prove that any non-flat left-invariant Einstein metric g on a solvable Lie group S is maximally symmetric. More precisely, if h is any other left-invariant Riemannian metric on S, then there exists an automorphism ψ of S such that the full isometry group of h is contained in that of the Einstein metric $\psi^* g$. The proof exploits the deep relationship between left-invariant Einstein metrics of negative Ricci curvature on solvable Lie groups and geometric invariant theory.

Alekseevskii conjectured that every homogeneous Einstein manifold of negative Ricci curvature is isometric to a solvable Lie group with a left-invariant Einstein metric. We will discuss the theorem above both in the context of this conjecture and in the context of finding the "best" left-invariant Riemannian metric on a given Lie group. (Received September 03, 2014)