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998-53-116 **Francisco Gabriel Hernández-Zamora*** (fgher@math.cinvestav.mx), Av. Universidad S/N, Barrio Sta. Cruz Tagolaba, 70,760 Tehuantepec, Mexico. *Isometric splitting for actions of simple Lie groups on pseudo-Riemannian manifolds.*

In this speech we consider the action of a connected, noncompact simple Lie group G on a connected, finite volume, pseudo-Riemannian manifold M . Under some conditions, the action mentioned provides us with both a decomposition in orbits of the manifold and a normal bundle to the orbits. Our main result provides a geometric splitting of the metric on such M that involves both natural metrics on G and metrics on the normal bundle to the orbits. For suitable G such splitting is a warped product. For any G the splitting turns out to be a direct product in the ergodic case. (Received February 18, 2004)