1023-Z1-1040 **Katrina Ashford Cunningham*** (`katrina_cunningham@subr.edu`), 156 Elton C. Harrison St., Department of Mathematics, Southern University, Baton Rouge, LA 70813. *An Explicit Plancherel Formula for Certain Completely Solvable Homogeneous Spaces.*

R. Lipsman developed a program for the construction of the Penney-Fujiwara Plancherel Formula for abelian symmetric spaces and for completely solvable homogenenous spaces. However, his program makes a crucial assumption that is not valid for all completely solvable homogeneous spaces. B. Currey showed that this crucial assumption can be removed for a certain class of homogeneous spaces and that the Penney-Fujiwara Plancherel Formula can be obtained. At present, it is not clear how to carry out the Penney-Fujiwara formulas for all completely solvable homogeneous spaces beyond the class studied by Currey. The speaker will consider and discuss the decomposition of representations of two such classes of completely solvable homogeneous spaces. In one class, the homogeneous space $\mathbf{g}$ is the associated Lie algebra of an extension of the split oscillator group. It is considered with its subspace $\mathbf{h}$, the Lie algebra of a nonabelian subgroup of the extension. In the other class, the homogeneous space $\mathbf{g}$ is the same extension, and $\mathbf{h}$ is the Lie algebra of an abelian subgroup of the extension. (Received September 24, 2006)