1051-58-75   **Franz W. Kamber*** (`kamber@math.uiuc.edu`), Department of Mathematics, 1409 W. Green Street, Urbana, IL 61801, and **Kenneth S. Richardson**. *Decompositions of equivariant vector bundles.* Preliminary report.

We investigate various decompositions of equivariant vector bundles over manifolds with a single orbit-type; that is, manifolds all of whose isotropy groups are conjugate. These decompositions are constructed relative to the fixed point set of an isotropy group.

The main application is as follows:

In a forthcoming paper, we prove explicit formulas for the equivariant indices of equivariant differential operators which are transversally elliptic with respect to the action of a compact Lie group. The indices are computed as a sum over the strata of the group action on the base manifold, which are of the above type, i. e. they have a single orbit-type. (Received August 20, 2009)