

1138-55-221

Carmen Rovi* (crovi@indiana.edu), 831 E 3rd Street, Rawles Hall, office 315, Bloomington, IN 47405. *The reinterpretation of Davis-Lueck equivariant homology in terms of L-theory and an application to the Farrell-Jones conjecture.*

The K -theory $K_n(\mathbb{Z}G)$ and quadratic L -theory $L_n(\mathbb{Z}G)$ functors provide information about the algebraic and geometric topology of a smooth manifold X with fundamental group $G = \pi_1(X, x_0)$. Both K - and L -theory are difficult to compute in general and assembly maps give important information about these functors. Ranicki developed a combinatorial version of assembly by describing L -theory over additive bordism categories indexed over simplicial complexes. In this talk, I will present current work with Jim Davis where we define an equivariant version of Ranicki's local/global assembly map and identify our local/global assembly map with the map on equivariant homology defined by Davis and Lueck.

It is a folklore result that the L -theoretic Farrell-Jones Conjecture holds for $G = H \rtimes_{\alpha} \mathbb{Z}$ assuming that it holds for the group H . Nonetheless, a satisfactory proof of this often used result has never been given. I will give an insight into how we use our investigation of the equivariant assembly maps to prove this result. (Received February 09, 2018)