Nic Koban* (nicholas.koban@maine.edu), Department of Mathematics, 117 South Street, Farmington, ME 04938. Some Topological Invariants of Groups and Actions.

Suppose $n \geq 0$, $G$ is a group of type $F_n$, and $\rho : G \to \text{Transl} (\mathbb{R}^m)$ is an action by translations of $G$ on $\mathbb{R}^m$. Let $\partial \mathbb{R}^m$ denote the sphere at infinity of $\mathbb{R}^m$ and let $e \in \partial \mathbb{R}^m$. The Bieri-Neumann-Strebel-Renz invariants $\Sigma^n (\rho) \subseteq \partial \mathbb{R}^m$ can be defined using a topological property of $\rho$ called controlled $(n - 1)$-connected toward $e$. This property is defined using half-spaces in $\mathbb{R}^m$ perpendicular to $e$. There is a competing definition that instead uses ordinary neighborhoods of $e$ in $\mathbb{R}^m \cup \partial \mathbb{R}^m$ called bounded $(n - 1)$-connected toward $e$. This property defines a new invariant $\Omega^n (\rho) \subseteq \partial \mathbb{R}^m$. How these invariants are related will be discussed during the talk. Examples involving right-angled Artin groups will be given along with a result involving products of groups. (Received September 19, 2006)