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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 $\rho : G \rightarrow \text{Transl}(\mathbb{R}^m)$ 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 ρ 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)