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Alexander I. Suci* (a.suciu@neu.edu), Department of Mathematics, Northeastern University, Boston, MA 02115. *Geometric and homological finiteness in free abelian covers.*

I will describe some of the inter-connections between the Bieri–Neumann–Strebel–Renz invariants, the Dwyer–Fried invariants, and the cohomology support loci of a space X , or its fundamental group G . Under suitable hypotheses, the geometric and homological finiteness properties of regular, free abelian covers of X can be expressed in terms of the resonance varieties, extracted from the cohomology ring of X . In general, though, translated components in the characteristic varieties affect the answer. Time permitting, I will illustrate the theory in the setting of toric complexes and right-angled Artin groups, as well as in the setting of smooth, complex projective and quasi-projective varieties. (Received September 17, 2011)