

Chen ranks of arrangement groups

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The Chen groups of a group G are the lower central series quotients of the maximal metabelian quotient of G . Under certain conditions, we relate the ranks of the Chen groups to the first resonance variety of G , a jump locus for the cohomology of G . In the case where G is the fundamental group of the complement of a complex hyperplane arrangement, our results positively resolve Suciu's Chen ranks conjecture.