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Local systems on complements of smooth hypersurface arrangements

I will present joint work with Alex Suciu, where we give a simple sufficient condition for the complement of a smooth, complex arrangement of hypersurfaces to have certain cohomological vanishing properties. In particular, using recent work of De Concini and Gaiffi, we arrive at a uniform proof that the complements of linear, toric and elliptic hyperplane arrangements are both duality and abelian duality spaces. As a consequence, we see that the characteristic varieties and resonance varieties of such arrangements "propagate".