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Robin Pemantle* (pemantle@math.ohio-state.edu), Department of Mathematics, 231 W. 18th Avenue, Columbus, OH 43235. *Generating functions whose denominator is a hyperplane arrangement*. Preliminary report.

In several probabilistic applications (queuing theory, random walks, filtering) one encounters multivariate generating functions $F = G/H$ where H is the product of linear polynomials. The quantities of interest are the coefficients of F . With some work, asymptotic formulae for these may be constructed from the geometry of the corresponding hyperplane arrangement. The connection to existing theory is via a stratified Morse decomposition of the topology of the complement of the arrangement. (Received August 16, 2002)