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Paolo Aluffi* (aluffi@math.fsu.edu), Florida State University, Tallahassee, FL 32306.

Deletion-contraction and multiple edge formulas for graph hypersurfaces.

Graph hypersurfaces arise naturally in the computation of Feynman amplitudes in scalar quantum field theory. We study the effect of basic combinatorial operations on their Grothendieck classes, and as an application we obtain information on their virtual Hodge polynomials. This is joint work with Matilde Marcolli. (Received April 11, 2010)