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Intersection Theory and Higgs Physics

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When finding linear relations between Feynman integrals using integration-by-parts identities, a very large linear system has to be solved as an intermediate step.
This makes other approaches to the derivation of these identities a worthwhile pursuit. In this context, the concept of the intersection number is of interest, as it allows for the definition of (what amounts to) a scalar product between Feynman integrals, allowing the coefficients of the master integrals to be extracted using ordinary projections in the space of Feynman integrals.
Using this novel method, we will derive and discuss a number of identities between Feynman integrals relevant for Higgs physics.

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