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Decompositions of the diagonal for cubic hypersurfaces

The existence of a Chow decomposition of the diagonal is an important stable birational invariant which has found recently many applications to the stable version of the Lüroth problem. I will explain several results which are specific to smooth cubic hypersurfaces:

- 1) for dimension either odd or non greater than 4, having a cohomological and having a Chow-theoretic decomposition of the diagonal are equivalent for them.
- 2) For a cubic threefold, having a decomposition of the diagonal is equivalent to the minimal class on the intermediate Jacobian being algebraic.