

# DUALIZING COMPLEXES

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This is a review of some of the applications of dualizing complexes within commutative algebra over the last three decades.

*Bass numbers* (non-vanishing, equal to one, larger than one; Bass series and Poincaré series).

*Local homomorphisms* (finite flat dimension; ascent and descent theorems; Gorensteinness and Cohen–Macaulayness; Grothendieck’s localization problem; Cohen factorizations; finite Gorenstein flat dimension).

*Auslander and Bass categories* (Gorenstein dimensions; cyclic modules of finite Gorenstein injective dimension).

*Intersection theorems.* (Auslander’s codimension conjecture).