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Detecting completeness from ext-vanishing. Preliminary report.

Motivated by work of C.U. Jensen, R.-O. Buchweitz, and H. Flenner, we prove the following result. Let R be a commutative Noetherian ring and I an ideal in the Jacobson radical of R. Let  $\widehat{R}^I$  be the I-adic completion of R. If M is a finitely generated R-module such that  $Ext_R^i(\widehat{R}^I, M) = 0$  for all  $i \neq 0$ , then M is I-adically complete. (Received July 30, 2006)