DESCENT OF SEMIDUALIZING COMPLEXES

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Semidualizing complexes arise in the study of local homomorphisms of finite Gorenstein dimension. For instance, the dualizing complex of a local ring homomorphism of finite Gorenstein dimension yields an ascent-descent result for the Gorenstein property. The ascent behavior of semidualizing complexes under completion is well understood; descent is more mysterious. For instance, an example of Ogoma shows that there exists a ring $R$ such that the dualizing complex of $\hat{R}$ does not descend to $R$. In this talk we will describe conditions under which every semidualizing $\hat{R}$-complex descends to $R$. This is joint work with L.W. Christensen.