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Saeed Nasseh* (saeed.nasseh@ndsu.edu), Department of Mathematics, North Dakota State University, Fargo, ND 58108, and **Sean Sather-Wagstaff**. *DG homological algebra and solution to a question of Vasconcelos.*

A homologically finite complex C over a commutative noetherian ring R is *semidualizing* if $\mathbf{R}\mathrm{Hom}_R(C, C) \simeq R$ in $\mathcal{D}(R)$. In this talk, we answer a question of Vasconcelos from 1974 by showing that a local ring has only finitely many shift-isomorphism classes of semidualizing complexes. Our proof relies on certain aspects of deformation theory for DG modules over a finite dimensional DG algebra. (Received September 18, 2012)