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Autore	Toda Yukinobu
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Nota di contenuto	- Introduction -- Koszul duality equivalence -- Categorical DT theory for local surfaces -- D-critical D/K equivalence conjectures -- Categorical wall-crossing via Koszul duality -- Window theorem for DT categories -- Categori ed Hall products on DT categories -- Some auxiliary results.
Sommario/riassunto	This book provides an introduction to categorical Donaldson-Thomas (DT) theory, a rapidly developing field which has close links to enumerative geometry, birational geometry, geometric representation theory and classical moduli problems in algebraic geometry. The focus is on local surfaces, i.e. the total spaces of canonical line bundles on algebraic surfaces, which form an interesting class of Calabi-Yau 3-folds. Using Koszul duality equivalences and singular support theory, dg-categories are constructed which categorify Donaldson-Thomas invariants on local surfaces. The DT invariants virtually count stable coherent sheaves on Calabi-Yau 3-folds, and play an important role in modern enumerative geometry, representation theory and mathematical physics. Requiring a basic knowledge of algebraic

geometry and homological algebra, this monograph is primarily addressed to researchers working in enumerative geometry, especially Donaldson-Thomas theory, derived categories of coherent sheaves, and related areas.