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Chiral Rings for $(0,2)$ *Models*

The Topological A-Model is a "twisted" version of the $N = (2,2)$ supersymmetric σ-model, with target space, X. The ring of observables of the A-Model is isomorphic to a certain deformation of the cohomology ring of X. I would like to present a generalization of this structure to the case of $N = (0,2)$ supersymmetry. The data will consist of X and a rank-r holomorphic vector bundle $V \to X$, satisfying $\bigwedge^r V = K_X$.

I will explain, first, from the point of view of the twisted supersymmetric σ-model, why a finite-dimensional graded-commutative ring exists. And I will explain, in a few examples, how quantum effect deform the ring structure.

This is joint work with Allan Adams and Morten Ernebjerg.