MATH 996

Topological Gauge theories and invariants of Donaldson-Thomas type

Dr. Yan Soibelman

The book for the course is: No Book

Along with standard theorems, the course will include the following topics:

1. A – infinity categories
2. Calabi – Yau manifolds and Calabi – Yau categories
3. Stability structures on triangulated categories
4. Invariants of 3D Calabi – Yau categories endowed with stability structure (Donaldson – Thomas invariants)
5. Motivic integration, motivic invariants of Calabi – Yau categories
6. Applications: wall-crossing formulas for coherent sheaves and special Lagrangian submaniforlds, moduli spaces of quiver representations and non-commutative Hilbert schemes

For more details about the course, see Professor Soibelman.