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Yan Soibelman* (soibel@math.ksu.edu), Department of Mathematics, KSU, Manhattan, KS 66506. *Wall-crossing formulas, Mirror Symmetry and integrable systems*. Preliminary report.

Talk is devoted to the interplay between SYZ picture of Mirror Symmetry, theory of Donaldson-Thomas invariants developed jointly by Maxim Kontsevich and the speaker, and complex integrable systems of Hitchin type. Unifying mathematical structure is called “wall-crossing data”. It underlies the cluster variety structure on the moduli space of local systems, resurgence properties of WKB solutions of Shrodinger equation and count of geodesics of quadratic differentials on Riemann surfaces. (Received February 06, 2012)