Title: About the Berglund-Hübsch mirror construction

Abstract: In the nineties the physicists Berglund and Hübsch [3] defined a duality between (finite quotients of) Calabi-Yau hypersurfaces defined by polynomials of the following type

$$W(x_1, \ldots, x_n) = \sum_{i=1}^{n} \prod_{j=1}^{n} x_j^{a_{ij}}.$$

in a weighted projective space. Recently Chiodo and Ruan [4] proved that stuch dual Calabi-Yau's satisfy the requirement of classical topological mirror symmetry, that is their Hodge numbers are exchanged. In this talk we will show that the Berglund-Hübsch construction actually consists of a duality between polytopes, in the spirit of Batyrev mirror symmetry [2], and that it can be interpreted as a duality of lattices for certain classes of K3 surfaces [1].

This is joint work with S. Boissière, P. Comparin and A. Sarti.

REFERENCES

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