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Mirror symmetry, mirror map and applications to Calabi-Yau hypersurfaces. (English)

Zbl 0814.53056

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Mirror symmetry plays an important role in quantum theory, however, as is well known there are numerous outstanding problems in a proper mathematical formulation of theories actually used by physicists. In this work the authors formulate a model for the mirror symmetry in Calabi-Yau spaces in the framework of toric geometry. This is contrary to what one would have expected from previous constructions. The authors provide explicit mirror maps and Yukawa couplings in the large radius limit for a number of examples with two or three Kähler moduli. Some interesting topological invariants for cases considered have been evaluated and are appended to the paper.

Reviewer: C.S.Sharma (London)

MSC:

- 53Z05 Applications of differential geometry to physics
- 81T40 Two-dimensional field theories, conformal field theories, etc. in quantum mechanics
- 81T30 String and superstring theories; other extended objects (e.g., branes) in quantum field theory

Cited in **109** Documents

Keywords:

Mirror symmetry; Calabi-Yau spaces; Yukawa couplings; Kähler moduli

Full Text: [DOI](#) [arXiv](#)

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