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Periods for Calabi-Yau and Landau-Ginzburg vacua. (English) Zbl 1009.32500

Nucl. Phys., B 419, No. 2, 352-403 (1994).

Summary: The complete structure of the moduli space of Calabi-Yau manifolds and the associated Landau-Ginzburg theories, and hence also of the corresponding low-energy effective theory that results from (2,2) superstring compactification, may be determined in terms of certain holomorphic functions called periods. These periods are shown to be readily calculable for a great many such models. We illustrate this by computing the periods explicitly for a number of classes of Calabi-Yau manifolds. We also point out that it is possible to read off from the periods certain important information relating to the mirror manifolds.

MSC:

[32G20](#) Period matrices, variation of Hodge structure; degenerations

[14J32](#) Calabi-Yau manifolds (algebraic-geometric aspects)

[32G81](#) Applications of deformations of analytic structures to the sciences

[32J81](#) Applications of compact analytic spaces to the sciences

[81T40](#) Two-dimensional field theories, conformal field theories, etc. in quantum mechanics

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Full Text: [DOI](#)

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