

Pandharipande, Rahul

Rational curves on hypersurfaces [after A. Givental]. (English) [Zbl 0932.14029](#)

Séminaire Bourbaki. Volume 1997/98. Exposés 835–849. Paris: Société Mathématique de France, Astérisque. 252, 307-340, Exp. No. 848 (1998).

The paper is a description (from the algebro-geometric point of view) of the relationship between hypergeometric series and the quantum cohomology of hypersurfaces in projective space, which the remarkable work done by *A. B. Givental* [Int. Math. Res. Not. 1996, No. 13, 613–663 (1996; [Zbl 0881.55006](#))] has unveiled.

A particular case of this relationship is Givental's proof of the prediction about the number of rational curves on the Calabi-Yau quintic 3-fold made by *Candelas, de la Ossa, Green and Parkes*.

For the entire collection see [[Zbl 0911.00019](#)].

Reviewer: [A. Gimigliano \(Firenze\)](#)

MSC:

- [14N35](#) Gromov-Witten invariants, quantum cohomology, Gopakumar-Vafa invariants, Donaldson-Thomas invariants (algebro-geometric aspects)
- [14J70](#) Hypersurfaces and algebraic geometry
- [14H10](#) Families, moduli of curves (algebraic)
- [14H81](#) Relationships between algebraic curves and physics
- [14N10](#) Enumerative problems (combinatorial problems) in algebraic geometry
- [14J30](#) 3-folds
- [14J45](#) Fano varieties

Cited in 1 Review
Cited in 19 Documents

Keywords:

hypergeometric series; quantum homology; hypersurfaces; number of rational curves; Calabi-Yau quintic 3-fold

Full Text: [Numdam](#) [EuDML](#) [arXiv](#)