

# Self-dual manifolds and mirror symmetry

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We introduce self-dual manifolds, which are a generalization of almost Kahler manifolds. We then describe a general framework, in which self-dual manifolds provide a geometric approach to mirror symmetry. This approach is different from the traditional one using special lagrangian fibrations, and may be able to circumvent some of its difficulties. We then show how this approach can be applied successfully to the case of anticanonical families in complex projective spaces. In this case we obtain not only a validation of the method, but also a glimpse of possible contacts with conformal field theory and the physical motivations of mirror symmetry.