

**Title:** Towards the classifications of class VII surfaces. New approaches, new results.

**Abstract:** We review the program developed by the author to prove existence of curves on class VII surfaces using instanton moduli spaces, and the results obtained for  $b_2 \leq 2$ . We present partial results obtained for higher  $b_2$  and the challenges which have to be overcome in order to apply successfully this program in the general case. We also discuss conjectured geometric properties of the known class VII surfaces, properties which, we believe, are essential for completing the classification.