

1125-57-2070

Kin Hei A. Mak* (km6hb@virginia.edu). *An alternative notion of symplectic 4-manifolds of general type*. Preliminary report.

The Seiberg-Witten invariants of minimal complex surfaces of general type have been understood for a long time to be as simple as possible while remaining nontrivial: such surfaces have a single Seiberg-Witten basic class, up to sign. A natural generalization of the notion of general type to the symplectic case is the condition that a symplectic 4-manifold have symplectic Kodaira dimension 2. However, the set of basic classes for such a symplectic manifold may be large; in particular this class of symplectic 4-manifolds does not reflect the behavior of general type surfaces as far as Seiberg-Witten theory. Here we describe a geometric-topological condition on a symplectic 4-manifold that guarantees it has just one Ozsváth-Szabó basic class up to sign. As a consequence, we provide a calculation of the Ozsváth-Szabó 4-manifold invariants for a large class of general type surfaces, independent of the conjectured equivalence between Ozsváth-Szabó and Seiberg-Witten invariants of 4-manifolds. (Received September 19, 2016)