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Symplectic geography problem

By Freedman's seminal work, the homeomorphism type of a closed simply connected 4-dimensional manifold (4-manifold for short) is determined by its intersection form on the second homology group. The "symplectic geography problem" asks when a symmetric bilinear form (form for short) can be realized as the intersection form of a symplectic 4-manifold. The problem has been answered when the form has negative signature. We will discuss the current state of the problem when the signature is nonnegative, with a special focus on realizability by spin symplectic 4-manifolds.