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Moduli spaces of stable bundles on a Hopf surface

A Hopf surface X is a non-Kaehler complex surface diffeomorphic to $S^1 \times S^3$. One can define a moduli space M_n parametrizing stable $SL_2(C)$-bundles over X of second chern number n. Using twisted Fourier-Mukai transforms and the Decomposition Theorem, we calculate the first and second betti numbers of M_n, answering a question posed by Witten in the context of string theory. This is joint work with Elizabeth Gasparim.