On S_3-actions on spin 4-manifolds

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ABSTRACT. Let X be a smooth, closed, connected spin 4-manifold with $b_1(X) = 0$ and signature $\sigma(X)$. In this paper we use Seiberg-Witten theory to prove that if X admits an even type symmetric group S_3 action preserving the spin structure, then $b_2^+(X) \geq |\sigma(X)|/8 + 2$ under some non-degeneracy conditions.

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