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*Stabilization in 4-dimensional topology.*

C.T.C. Wall (1964) showed that homotopy equivalent simply-connected 4-manifolds become diffeomorphic after (possibly repeated) stabilization by connected sum with  $S^2 \times S^2$ . In all known examples, one stabilization suffices. We give concrete examples of a similar phenomenon for embedded 2-spheres. Denote by  $X_{m,n}$  the connected sum of  $m$  copies of  $\mathbb{C}P^2$  and  $n$  copies of  $\overline{\mathbb{C}P^2}$ .

**Theorem.** For any even  $m \geq 4$  and  $n \geq 5m$ , the manifold  $X_{m,n}$  contains infinitely many smoothly distinct 2-spheres. These spheres become smoothly isotopic after stabilization with  $S^2 \times S^2$ .

**Corollary.** For  $m$  as above and  $n \geq 5m + 2$ , there are infinitely many non-isotopic diffeomorphisms  $f_j$  of  $X_{m,n}$  that become isotopic after stabilization  $f_j \rightarrow f_j \# \text{id}_{S^2 \times S^2}$ . (Received August 25, 2014)