1037-57-180 **Thomas E. Mark*** (tmark@virginia.edu), Department of Mathematics, PO Box 400137, University of Virginia, Charlottesville, VA 22904. *Knotted surfaces in 4-manifolds.*

We revisit Fintushel and Stern's "rim surgery" construction from the point of view of Heegaard Floer theory. Our main result is that given a symplectic surface S with simply-connected complement in a symplectic 4-manifold, there exist infinitely many smoothly non-isotopic surfaces representing the topological isotopy class of S, so long as the self-intersection of the surface in question is not "too negative." This extends the result of Fintushel and Stern, who were obliged to assume that the self-intersection was at least 0. The proof makes use of a result giving the behavior of relative Ozsváth-Szabó invariants under Fintushel-Stern knot surgery, together with a calculation of the twisted Floer homology of circle bundles with "large" Euler number over surfaces. We will give an outline of the proof, in particular attempt to indicate why the restriction on the self-intersection of S arises. (Received February 01, 2008)