1015-57-20 **Stanislav Jabuka** and **Thomas E. Mark*** (tmark@selu.edu), Department of Mathematics SLU box 10687, SLU box 10687, Hammond, LA 70402. *Relative Ozsváth-Szabó invariants and gluing 4-manifolds with boundary.*

We describe a general framework for determining the Ozsváth-Szabó invariants of a closed manifold X obtained by gluing two 4-manifolds Z_1, Z_2 along their boundary Y, where $b^+(Z_i) \geq 1$ and Y is connected. In general, the invariants for X are given by pairing relative invariants for Z_1 and Z_2, which take values in a Heegaard Floer homology group for Y with appropriately twisted coefficients. As an application we describe the result for the case that Y is diffeomorphic to the product of a Riemann surface with a circle, and focus in particular on cases for which analogous results are not known for the Seiberg-Witten invariants. (Received December 12, 2005)