1014-57-97 **Stanislav Jabuka** and **Thomas E. Mark*** (tmark@selu.edu), Southeastern Louisiana University, Department of Mathematics, SLU box 10687, Hammond, LA 70402. *Fiber sum formulae for Ozsváth-Szabó invariants.*

One of the main tools in many constructions of symplectic manifolds is the normal connected sum along codimension-2 symplectic submanifolds, which was shown to be a symplectic operation by Gompf and McCarthy-Wolfson. We consider the case of sums along symplectic surfaces of genus $g \geq 1$ with trivial normal bundle in symplectic 4-manifolds, and in particular study the behavior of the Ozsváth-Szabó 4-manifold invariants under this operation. We present a fairly general formula for the Ozsváth-Szabó invariants of such a fiber sum in terms of the invariants of the summands, which in special cases corresponds to results in Seiberg-Witten theory obtained by Morgan-Mrowka-Szabó, Morgan-Szabó-Taubes, and others. If time permits, we will discuss applications of our product formula to symplectic topology. (Received July 22, 2005)