

1098-57-136

Laura Starkston* (lstarkston@math.utexas.edu). *Symplectic fillings and exotic 4-manifolds.*

This talk will show how some very well understood invariants of manifolds can be used to understand complicated geometry and invariants. We will discuss how some powerful tools from symplectic geometry together with simple homology computations, can classify and suggest constructions of symplectic manifolds with a particular fixed boundary (in these cases certain Seifert fibered spaces with a canonical contact structure). We will then describe how these constructions can be used to build exotic 4-manifolds. The exoticness can be detected by Seiberg-Witten invariants, but the computation of the Seiberg-Witten invariants comes down, again, to computations on the homology of the 4-manifold. This is based on joint work with Cagri Karakurt. (Received January 21, 2014)