

1068-57-3

**Gordana Matic\*** (gordana@math.uga.edu), **Ko Honda** and **Will Kazez**. *Contact Structures, Open Books and Contact Invariants in Floer Homology*.

A contact structure on a 3-manifold is a nowhere integrable plane field. Thurston and Winkelnkemper showed in the 70's that an open book decomposition of a 3-manifold determines a compatible contact structure. In 2000 Giroux showed that the converse is true - every contact structure on a 3-manifold is compatible with an open book decomposition. Ozsvath and Szabo used this fact to define an invariant for the contact structure in their Heegaard Floer Homology, providing an important new tool to study contact 3-manifolds. We will describe a simple way to visualize this contact invariant and talk about applications and generalizations. In particular, when the contact manifold has boundary we can define an invariant in Sutured Floer Homology. This is joint work with Ko Honda and Will Kazez. (Received January 19, 2011)