

Heegaard Floer theory, Open manifolds and Teichmuller spaces

Siddhartha Gadgil
Indian Institute of Science, India

Abstract. For smooth, open 4-manifolds, we construct an invariant using the Heegaard Floer theory of Ozsvath and Szabo and show that this is sensitive enough to detect exotic \mathbb{R}^4 's. In the second part of the lecture, we discuss a method to count holomorphic curves in products of surfaces using Teichmuller theory. The problem of counting curves is closely related to the problem of finding a combinatorial description of Heegaard Floer theory.