

Meeting: 1007, Santa Barbara, California, SS 6A, Special Session on Geometric Methods in Three Dimensions

1007-57-101 **Martin Scharlemann** and **Maggy Tomova*** (maggy@math.ucsb.edu), University of California, Santa Barbara, South Hall, 6432M, Santa Barbara, CA 93106. *Alternate Heegaard genus bounds distance.*

Given a surface P , the curve complex of P is a graph in which the vertices correspond to isotopy classes of essential curves on P . Two vertices are connected by an edge if the corresponding isotopy classes of curves have disjoint representatives. If the surface P is a Heegaard splitting of a 3-manifold M , then $d(P)$ is the minimum distance in this graph between vertices corresponding to curves that bound compressing disks on opposite sides of P .

By a theorem of Hartshorn, it is known that if M is an irreducible compact orientable 3-manifold and P is a Heegaard surface for M , then $d(P)$ is bounded above by the genus of any properly embedded essential surface. We prove that $d(P)$ is similarly bounded by the genus of alternate Heegaard surface Q as long as Q is not isotopic to a stabilization of P . (Received February 09, 2005)