

Meeting: 998, Houston, Texas, SS 7A, Special Session on Low Dimensional Topology

998-57-321 **Jennifer Schultens*** (jcs_business@hotmail.com), UC Davis, Dept of Math, 1 Shields Ave,
Davis, CA 95616. *Relative Heegaard genus of Haken 3-manifolds*. Preliminary report.

The relative Heegaard genus of a compact 3-manifold M is the smallest possible genus of a Heegaard splitting of M such that ∂M is contained on one side of the splitting surface. It is denoted by $g(M, \partial M)$. Given a compact 3-manifold M containing a compact possibly disconnected surface Q we investigate the behaviour of the relative genus under the operation of cutting along Q .

Denoting the completions (with respect to the path metric) of the components of $M - Q$ by M^1, \dots, M^k we establish that

$$g(M, \partial M) \geq \frac{1}{7} \left(\sum_j g(M^j, \partial M^j) - |M - Q| + 7 - 3\chi(\partial M) + 2\chi(Q) - 2 \sum_j n_j \right)$$

where n_j is the maximal number of non parallel annuli that can be simultaneously embedded in M^j .

Most of the talk will be spent providing definitions and discussing examples. (Received March 01, 2004)