Jesse E Johnson* (jessee.johnson@yale.edu), Yale University, Mathematics Department, PO Box 208283, New Haven, CT 06520. A normal surface calculus for Heegaard splittings.

A normal or almost normal surface is a surface embedded in a 3-manifold so that it intersects a triangulation in a locally simple way that can easily be encoded by a computer program. Rubinstein and Stocking showed that every strongly irreducible Heegaard can be made almost normal with respect to a nice enough triangulation for the ambient 3-manifold. I will describe an algorithm that determines which almost normal surfaces are Heegaard surfaces and identifies pairs of isotopic surfaces. (Received September 11, 2008)