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Scott A. Taylor* (staylor@math.ucsb.edu), Department of Mathematics, South Hall 6607,
University of California, Santa Barbara, Santa Barbara, CA 93106. *Non-compact Heegaard
Splittings of Deleted Boundary 3-manifolds.*

A theme in the study of non-compact 3-manifolds has been figuring out appropriate generalizations of theorems about compact 3-manifolds. Frohman and Meeks defined the Heegaard splitting of an open 3-manifold to be the partition of the manifold into two non-compact handlebodies glued along their boundary. I will describe a classification of Heegaard splittings of non-compact 3-manifolds which are the interiors of compact 3-manifolds with non-empty boundary, a result which generalizes Frohman and Meeks' classification of splittings of \mathbb{R}^3 . The result presented here is analogous to (and depends on) Scharlemann and Thompson's classification of splittings of (closed surface) $\times I$. An important tool is a non-compact analogue of Casson and Gordon's theorem on weakly-reducible Heegaard splittings. The main result is that if M is the interior of a compact 3-manifold with non-empty boundary containing no spherical components, then M has, up to proper ambient isotopy, a unique Heegaard splitting. (Received January 23, 2006)