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Gabriel A. Coloma* (gabriel.coloma@upr.edu) and **Marguerite R. Davis.** *Trivalent braids and their closures.* Preliminary report.

A spatial trivalent graph is an embedding of a trivalent graph in three-dimensional space. A diagram of a spatial trivalent graph G is a projection of G into a plane. In this research, we study these objects by working with trivalent braids and their closures. Similar to a classical braid, a trivalent braid contains classical crossings. In addition, a trivalent braid may contain trivalent vertices. We develop a braiding algorithm for converting a diagram of an oriented spatial trivalent graph into the closure of a trivalent braid. We also use our braiding algorithm to describe trivalent braids whose closures represent the same spatial trivalent graph. (Received July 26, 2017)