1023-05-578   **Mark Ellingham*** (`mark.ellingham@vanderbilt.edu`) and **Xiaoya Zha**. *Orientable strong embeddings for cubic projective-planar graphs.*

A *strong* or *closed* 2-*cell* embedding of a graph is an embedding such that each face is homeomorphic to an open disk and is bounded by a cycle in the graph. The Orientable Strong Embedding Conjecture says that every 2-connected graph has a strong embedding in some orientable surface. This implies both the Cycle Double Cover Conjecture and the Strong Embedding Conjecture. We develop surgeries which convert nonorientable strong embeddings into orientable strong embeddings, and construct orientable strong embeddings from such embeddings of smaller graphs. We also prove a structure theorem for embeddings of 2-connected cubic graphs in the projective plane. It follows that each such graph has a strong embedding in some orientable surface. (Received September 18, 2006)