

Meeting: 1000, Albuquerque, New Mexico, SS 3A, Special Session on Algebraic Geometry

1000-14-108 **Elizabeth T. Gasparim*** (gasparim@nmsu.edu), New Mexico State University, Department of Mathematics, Las Cruces, NM 88003. *Holomorphic surgery for vector bundles*. Preliminary report.

I define a new operation of holomorphic surgery for vector bundles over surfaces. Let S be a compact complex surface containing a line ℓ of negative self-intersection. Given a vector bundle E over S , the objective of this type of surgery is to lower the energy of the bundle E , around ℓ . The result is a new vector bundle E' over S which is isomorphic to E outside of ℓ but has smaller total energy. I will describe how to obtain bundles with minimal energy, and I will show how the local energy is calculated. (Received August 19, 2004)