Representing Homology Classes by Locally Flat Surfaces of Minimum Genus^{*}

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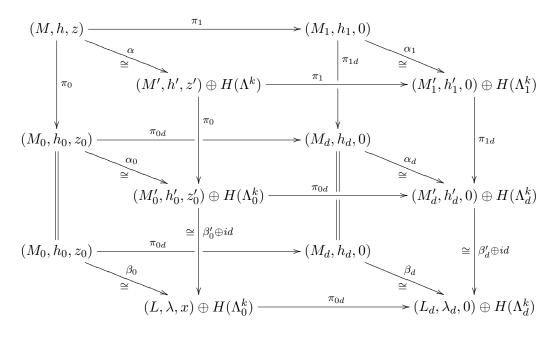
1 Introduction

A necessary and sufficient condition will be given for a nontrivial homology class of a simply connected 4-manifold to be represented by a simple, topologically locally flat embedding of a compact Riemann surface.

2 Splittings of Hermitian Modules

We begin with an algebraic result.

Theorem 1. The following is a commutative diagram of pointed hermitian modules.



^{*}This is an excerpt from a paper published under the same title in the American Journal of Mathematics 119 (1997), 1119–1137. Typeset by the authors using IAT_{EX} with packages from A_{MS} and X_{Y} -pic.