## A NOTE ON THE STONG-HATTORI THEOREM

BY

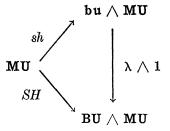
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Summary. The theorem of Stong and Hattori referred to in the title asserts that the natural mapping

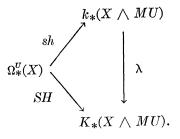
$$sh: \Omega^U_*(X) \to K_*(X \wedge MU)$$

is a split monomorphism whenever X is a finite complex with torsion free integral homology. In the present note we will show that the map sh remains monic (although need no longer be split) for those complexes with  $\Omega_*^{U}(X)$ of projective dimension at most one as an  $\Omega_*^{U}$ -module. Two proofs will be presented—one for K-theory and one for k-theory. We show by example that the result is best possible.

Let us begin by fixing our notations and conventions. We assume that we are working in a suitable category of spectra where the  $\wedge$  product is defined, such as that constructed by Boardman [9]. We denote by  $\Omega_*^{\nu}(\ )$  the complex bordism homology theory which is represented by the Thom spectrum **MU**. We write  $K_*(\ )$  for the homology theory dual to the usual Kcohomology theory, and  $k_*(\ )$  for the homology theory represented by the connective **bu** spectrum. The representing spectrum for  $K_*(\ )$  is denoted by **BU**. There is the natural commutative diagram of spectra



which for any finite complex X yields a commutative diagram



Note that  $sh = (1_{bu} \wedge 1)_*$  and similarly for SH.

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