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# N-HIGH SUBMODULES AND h-TOPOLOGY

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**Abstract:** A submodule K of M is N-high if K is maximal with the property $K \cap N = 0$. where N is a submodule of M. In this paper we study N-high submodules in the light of h-topopogy. In h-topology, $H_k(M)$, $k = 1,2,\ldots,\infty$ form a neighbourhood system for zero. We characterize the submodules N of a h-reduced $S_2$-model M for which all N-high submodules are bounded. We further characterize the submodule N of the same module M for which all h-pure N-high submodules are bounded,

## 1. Introduction

All the rings considered here are associative, with unity and the modules are torsion, unital, tight $S_2$-modules. M i.e. they satisfy the following conditions :

(i) Every finitely generated submodule of every homomorphic image of M is the different sum of uniserial modules.

(ii) For any two uniserial modules U and V of homomorphic image of M, for any $W \subseteq U$ any nonzero homomorphism $f : W \to V$ may be extended to a homomorphism $g : U \to V$ provided that the composition length $d(U/W) \leq d(V/f(W))$.