

AN INTERIOR OPERATION ON SUBMODULES

In this talk, we introduce an interior operation on submodules by using a set of ideals. Let R be a commutative ring with identity and \mathcal{I} be a set of ideals of R . We define \mathcal{I} -second submodules and \mathcal{I} -interior of a submodule. We show that second, secondary and strongly second submodules are special types of \mathcal{I} -second submodules. Let M be an R -module and N be a submodule of M . We define \mathcal{I} -interior of N as the sum of all \mathcal{I} -second submodules of N . We investigate several properties of \mathcal{I} -interiors of submodules and give a concrete expression of \mathcal{I} -interior of a submodule of an Artinian module. We use the concept of \mathcal{I} -interior of a submodule to find some results on \mathcal{I} -second submodules and attached primes of an Artinian module.