Abstract

In order to study the notion of almost Cohen-Macaulayness, we give some generalization of Cohen-Macaulay rings and modules. In the first step the notion of Cohen-Macaulayness over non Noetherian rings are given. After summarizing some results toward solving a conjecture posed by Glaz, we give a generalization of the Hochster-Eagon result on Cohen-Macaulayness of invariant rings, in the context of non Noetherian rings. In the second step we explore a theory of Cohen-Macaulayness with respect to Serre classes. In the last section by combining the preceding steps we introduce the notion of almost Cohen-Macaulayness.

Keywords

1. Almost zero modules
2. Almost Cohen-Macaulay
3. Cohen-Macaulay
4. Cohen-Macaulayness with respect to Serre classes
5. Invariant rings
6. Non-Noetherian Cohen-Macaulay
7. Non-Noetherian ring