

962-T1-365

**Tracy D Hamilton\***, Department of Mathematics, Western Illinois University, Macomb, IL 61455. *Weak Bourbaki Unmixed Rings: A Step Towards Non-Noetherian Cohen-Macaulayness*. Preliminary report.

This paper has been motivated by the search for an “appropriate” definition of non-Noetherian Cohen-Macaulayness. In this paper we discuss what conditions we should require such a definition to satisfy. In an attempt to find such a definition, I have gone back to the origin of Cohen-Macaulay rings in Macaulay’s 1916 paper. In this paper Macaulay studied whether or not certain ideals in the rings he was studying were height-unmixed. Noetherian rings that satisfy the conditions Macaulay was studying are now called Cohen-Macaulay. The problem with extending this unmixedness condition to non-Noetherian rings is that there are many characterizations of the associated prime ideals to an ideal which are all equivalent when the ring is Noetherian but which are no longer equivalent if the ring is not Noetherian. In this paper, I have chosen to study the Cohen-Macaulay unmixedness condition with respect to the weak Bourbaki associated prime ideals. Rings which satisfy this unmixedness condition will be called weak Bourbaki unmixed. In the paper I show that weak Bourbaki unmixed rings satisfy some of the conditions proposed for an “appropriate” definition. It is not yet known whether or not they satisfy all of the conditions.

(Received September 12, 2000)