1056-13-621 **Silvia Saccon*** (s-ssaccon1@math.unl.edu), Department of Mathematics, University of Nebraska-Lincoln, Lincoln, NE 68588-0130. *Modules over one-dimensional local rings of infinite Cohen-Macaulay type.* Preliminary report.

Let $(R, \mathfrak{m})$ be a one-dimensional Noetherian local ring whose $\mathfrak{m}$-adic completion $\widehat{R}$ is reduced. We consider the monoid $\mathfrak{C}(R)$ of isomorphism classes of maximal Cohen-Macaulay R-modules (together with $[0_R]$) with operation given by $[M] + [N] = [M \oplus N]$. This monoid carries information about direct-sum decompositions of maximal Cohen-Macaulay R-modules. In order to describe $\mathfrak{C}(R)$, it is useful to consider $\mathfrak{C}(R)$ as a submonoid of $\mathfrak{C}(\widehat{R})$, since $\mathfrak{C}(\widehat{R})$ has a very simple structure by the Krull-Remak-Schmidt theorem. Fundamental in this study is the notion of *rank* of a maximal Cohen-Macaulay $\widehat{R}$-module M. (The rank of M is the tuple consisting of the vector-space dimensions of M_P over $\widehat{R}_P$, where P ranges over the minimal prime ideals of $\widehat{R}$.) The key to describing $\mathfrak{C}(R)$ is to determine the possible ranks of indecomposable maximal Cohen-Macaulay $\widehat{R}$-modules. Other authors have characterized the monoid $\mathfrak{C}(R)$ when R has finite Cohen-Macaulay type. In this talk, I will discuss the structure of $\mathfrak{C}(R)$ when R has *infinite* Cohen-Macaulay type. (Received September 14, 2009)