1024-13-115 **Brenda J. Mammenga*** (brenda.mammenga@ndsu.edu), 105 Billings Street, Dwight, ND 58075, and **Jim Coykendall** (jim.coykendall@ndsu.edu). *Atomic Factorization Structure in Integral Domains.*

It is known that an atomic monoid can take on certain factorization characteristics that an atomic domain cannot. For example, it is known that the monoid $\{0, 2, 3, 4, \ldots\}$ cannot appear as the multiplicative monoid of an integral domain.

Nonatomic domains have more freedom of stucture (once the "non-atomic" part of the domain is ignored). For example, the monoid $\{0, 2, 3, 4, \ldots\}$ can appear as the "atomic part" of a non-atomic domain. This talk will clarify some of these notions and demonstrate a procedure that allows an arbitrary atomic monoid (reduced and cancellative) to appear as the "atomic part" of an integral domain. (Received January 04, 2007)