

1014-08-870

**Ulrich Krause\*** ([krause@math.uni-bremen.de](mailto:krause@math.uni-bremen.de)), Department of Mathematics, University of Bremen, 28334 Bremen, Germany. *Atomic decay in monoids*. Preliminary report.

For factorial domains and monoids it is a characteristic feature that a power of an atom is not divisible by another (non-associated) atom. In the case of non-factoriality, however, powers of atoms may be factored in a nontrivial manner into different atoms. This decay of (powers of) atoms into other atoms will be analyzed in the talk by tools of extraction. Connections between such an atomic decay and concepts like elasticity, cross number, half-factoriality will be explored. Particularly well suited for analyzing atomic decay are GCD domains and  $\ast$ -monoids. There factoriality just means atomic decay to be trivial. (Received September 26, 2005)