1058-13-84 **Jeremiah N. Reinkoester***, Department of Mathematics, 14 MacLean Hall, Iowa City, IA 52242. *$\tau_{[\ ]}$-UFD's, UCFD's, and CK-domains.* Preliminary report.

Let D be an integral domain. We define a $\tau_{[\ ]}$-atom to be any nonzero, nonunit element a of D with no proper factorization $a = a_1 \cdots a_n$ such that $[a_i, a_j] = 1$ for $i \neq j$. We then define a $\tau_{[\ ]}$-UFD to be an integral domain such that each nonzero, nonunit element a can be uniquely written, up to units, as a product of $\tau_{[\ ]}$-atoms $a = a_1 \cdots a_n$ with $[a_i, a_j] = 1$ for $i \neq j$. We explore the connection between Unique Comaximal Factorization domains (UCFD's) and $\tau_{[\ ]}$-UFD's. We also compare Cohen-Kaplansky domains with $\tau_{[\ ]}$-UFD's. (Received February 04, 2010)