

1010-13-61

Andrew J. Hetzel* (AHetzel@tntech.edu), Department of Mathematics, Box 5054, Tennessee Tech. University, Cookeville, TN 38505, and **A. Serpil Saydam**. *On the Ascent of Properties Related to Unique Factorization Domains, Part I*. Preliminary report.

Inaugurated by Li (Comm. Algebra, **28** (2000), 209–216), an area of recent interest in commutative ring theory has been the ascent of the property of being a UFD to certain types of finitely generated overrings. Heinzer, Li, Ratliff, and Rush (Trans. Amer. Math. Soc. **354** (2002), 1811–1835) have subsequently deepened this study by considering when a monoidal transform of a (Noetherian) Cohen-Macaulay UFD is either a UFD or a Krull domain. In this talk, the speaker draws upon recent research with A. S. Saydam to provide an effective approach towards the development of equivalent conditions for a (certain class of) monoidal transform to inherit either the property of being a completely integrally closed domain that satisfies ACCP, the property of being a Mori domain, the property of being a Krull domain, or the property of being a UFD, respectively. Such an approach makes use of (analytically) independent sets that form prime ideals in the base domain. (Received August 17, 2005)