ON Á-RINGS: A GENERALIZATION OF INTEGRAL DOMAINS

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Abstract:

Let R be a commutative ring with 1 6= 0 and Nil(R) be its set of nilpotent elements. Recall that a prime ideal of R is called a divided prime if P ½ (x) for every x 2 RnP. The class of rings: H = fR j R is a commutative ring and Nil(R) is a divided prime ideal of Rg has been studied extensively by the speaker(i.e. Badawi). Observe that if R is an integral domain, then R 2 H. Hence H is a much larger class than the class of integral domains. If R 2 H, then R is called a Á-ring.

I wrote the ¯rst paper on Á-rings in 1999 :"Á-pseudo-valuation rings," appeared in Advances in Commutative Ring Theory, 101-110, Lecture Notes Pure Appl. Math. 205, Marcel Dekker, New York/Basel, 1999.

This talk relies on the following published papers.

*A. Badawi, Factoring nonnil ideals of a commutative ring as a product of prime and invertible ideals, Bulletin of the London Math. Society 37(2005), 665-672.
*A. Badawi, On Á-Noetherian rings, Comm. Algebra 31 (2003), 1669-1677.
*A. Badawi, On Á-chained rings and Á-pseudo-valuation rings, Houston J. Math.27 (2001), 725-736.
*A. Badawi, On Á-pseudo-valuation rings II, Houston J. Math. 26 (2000), 473-480.
*A. Badawi and A. Jaballah, " Some ¯niteness conditions on the set of overrings of a Á-ring," Houston J. Math. 34(2) (2008), 397-407.
*D. F. Anderson and A. Badawi, On Á-PrÄufer rings and Á-Bezout rings, Houston J. Math. 30 (2004), 331-34

*A. Badawi and Thomas Lucas, "on Á-Mori rings," Houston J. Math.32(2006),1-31.
*A. Badawi and D. E. Dobbs, " Strong ring extensions and Á-pseudo-valuation rings," Houston J. Math.32(2006), 379-398.
*A. Badawi and DavidE. Dobbs, " On Locally divided rings and going down rings," Comm. Algebra. 29(2001), 2805-2825.