

Haitham El Alaoui, Hakima Mouanis
Notes on generalizations of Bézout rings

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Abstract: In this paper, we give new characterizations of the P -2-Bézout property of trivial ring extensions. Also, we investigate the transfer of this property to homomorphic images and to finite direct products. Our results generate original examples which enrich the current literature with new examples of non-2-Bézout P -2-Bézout rings and examples of non- P -Bézout P -2-Bézout rings.

Keywords: P -Bézout ring; 2-Bézout ring; P -2-Bézout ring; trivial rings extension; homomorphic image; finite direct product

AMS Subject Classification: 13A15, 13B10, 13F05, 13D02

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