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ERRATUM TO $(\delta, 2)$-PRIMARY IDEALS OF A COMMUTATIVE RING

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In Theorem 6 of [1], if R is a von Neumann regular ring, then every 2-prime ideal of R is a prime ideal. But the converse of this implication does not hold. Thus, we correct Theorem 6 of [1] as follows:

Theorem 6. *Let R be a ring. If R is von Neumann regular, then every 2-prime ideal of R is a prime ideal.*

Proof. Suppose that I is a 2-prime ideal of R. Let $x, y \in R$ with $xy \in I$ and $x \notin I$. Since R is von Neumann regular, there exists $a \in R$ such that $x = ax^2$. If $x^2 \in I$, then $x = ax^2 \in I$, a contradiction. Thus, $x^2 \notin I$. By our assumption, we get $y^2 \in I$. Hence $y \in \sqrt{I} = I$ as R is a von Neumann regular ring. Thus I is a prime ideal of R. □

References

[1] *G. Ulucak, E. Yetkin Çelikel*: $(\delta, 2)$-primary ideals of a commutative ring. Czech. Math. J. *70* (2020), 1079–1090. doi

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