

The minimal weak Drazin inverses

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Let R be a ring. In 1978, Campbell and Meyer proposed the minimal rank weak Drazin inverse of a matrix. We extend it to the ring R and define the minimal weak Drazin inverse of an element in the ring. Furthermore, it is proved that the minimal weak Drazin inverse of an element in a ring exist if and only if it is Drazin invertible. Then, the set of minimal weak Drazin inverses of an element in a ring is described. Finally, some properties and characterizations of minimal weak Drazin inverses are given.

References

- [1] Weak core inverses and pseudo core inverses in a ring with involution Zhou, Yukun; Chen, Jianlong *Linear Multilinear Algebra* 70 (2022), no. 21, 6876–6890.
- [2] Minimal rank weak Drazin inverses: a class of outer inverses with prescribed range Wu, Cang; Chen, Jianlong *Electron. J. Linear Algebra* 39 (2023), 1–16.
- [3] Pseudo core inverses in rings with involution Gao, Yuefeng; Chen, Jianlong *Comm. Algebra* 46 (2018), no. 1, 38–50.