

Left and right G-outer inverses

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In order to propose weaker versions of G-outer inverse, left and right G-outer inverses are presented as new generalized inverses. The sets of all left and right G-outer inverses are described. Using left and right G-outer inverses, we introduce new partial orders and establish their relations with minus partial order and space pre-order. We apply these results to present and investigate left and right G-Drazin inverses of square matrices and corresponding partial orders.