Title: Core-EP inverse in rings with involution

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We introduce the core-EP inverse for an element of a ring with involution using its generalized Drazin inverse, extending the core-EP inverse for a generalized Drazin invertible operator on Hilbert space to a more general case. Several characterizations for a generalized Drazin invertible element to be core-EP invertible and corresponding expressions for the core-EP inverse are presented as well. We investigate the reverse order law and the additive property for this core-EP inverse.

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