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Fixed point theorems for nonexpansive operators with dissipative perturbations in cones

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Abstract: Let P be a cone in a Hilbert space H, $A : P \to 2^P$ be an accretive mapping (equivalently, $-A$ be a dissipative mapping) and $T : P \to P$ be a nonexpansive mapping. In this paper, some fixed point theorems for mappings of the type $-A+T$ are established. As an application, we utilize the results presented in this paper to study the existence problem of solutions for some kind of nonlinear integral equations in $L^2(\Omega)$.

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