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P. S. Milojevic* (pemilo@m.njit.edu), Department of Mathematical Sciences, New Jersey Institute of Technology, Newark, NJ 07102. *Solvability and the number of solutions of Hammerstein equations.*

Let X and Y be Banach spaces, K be a linear map from Y to X and F be a nonlinear map from X to Y . We study the (unique) solvability and the number of solutions of the Hammerstein equation (*) $x-KFx=f$ by applying some degree theory either directly to Eq.(*) or to its equivalent formulation using a suitable splitting of K . The linear part K is assumed to be either selfadjoint or nonselfadjoint and (quasi) P -positive, while F is ball or set contractive, or of monotone type, or the sum of such maps. We apply the abstract results for Eq. (*) to nonlinear Hammerstein integral equations and to BVP's for nonlinear elliptic equations. (Received February 27, 2007)