

Solutions to nonlinear and nonmonotone operator equations in Banach spaces

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We provide a concise proof of existence for nonlinear operator equations in separable Banach spaces. Notably, the operator is not assumed to be monotone. Instead, our main hypotheses consist of a continuity assumption and a generalized coercivity property.

To illustrate the applicability of this general concept, we apply it to semi-linear elliptic problems and the Navier-Stokes equations.

Joint work with R. Becker (Univ. Pau, France)