Well-posedness Results in the Study of Quasi-Variational Inequalities

Anna Ochal

Faculty of Mathematics and Computer Science
Jagiellonian University, Krakow, Poland
`anna.ochal@uj.edu.pl`

We consider an elliptic variational inequality with unilateral constraints (QVI) in a Hilbert space X, specifying the assumptions under which a unique solution u is obtained. We formulate a convergence criterion for the solution u, outlining necessary and sufficient conditions on a sequence $\{u_n\} \subset X$, which guarantee the convergence $u_n \to u$ in the space X.

Next, we introduce a new well-posedness concept and show that it extends the classical Tykhonov and Levitin-Polyak well-posedness concepts for variational inequalities QVI. Finally, we present applications of our theoretical results in the study of a specific boundary value problem.

A talk is based on the resent results obtained together with Mircea Sofonea and Domingo A. Tarzia.