Some applications of implicit function theorems from variational analysis

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We present some applications of implicit function theorems from variational analysis to sensitivity analysis of prominent optimization problems, including the LASSO, square root LASSO or the proximal operator as a function of the proximal parameter. These are leveraged in numerical computations.

Joint work with Aaron Berk (McGill), Simone Brugiapaglia (Concordia), Michael P. Friedlander (UBC), Ariel Goodwin (Cornell).