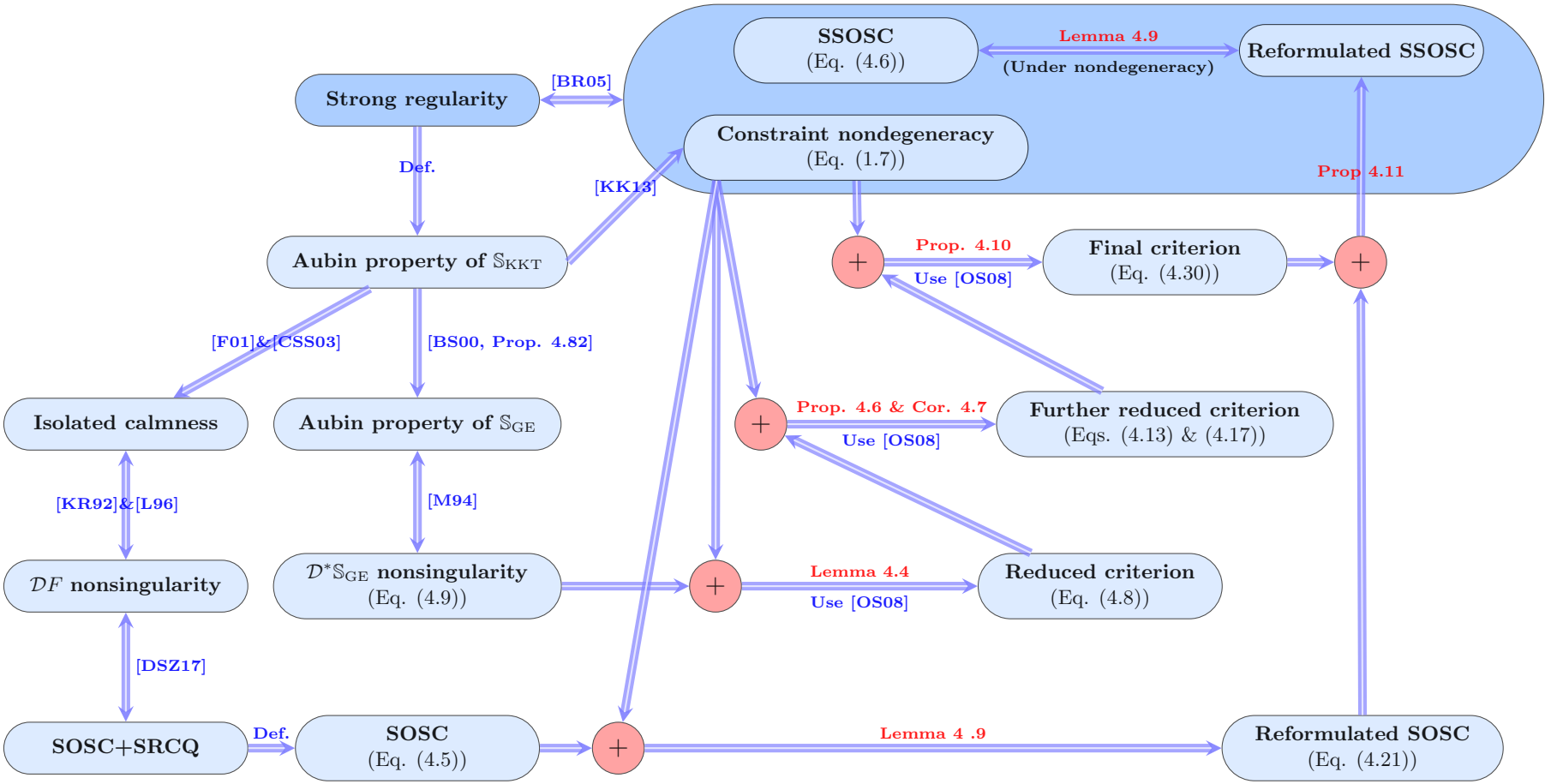
Flowchart of the Analysis in

Aubin Property and Strong Regularity Are Equivalent for Nonlinear Second-Order Cone Programming



In this flowchart, the node + indicates that all the conditions entering via the arrows jointly imply the result indicated by the outgoing arrow.

SOSC:	second-order sufficient condition	$\mathcal{D}$:	graphical derivative
SSOSC:	strong second-order sufficient condition	$\mathcal{D}^*$:	Mordukhovich's coderivative
SRCQ:	strict Robinson's constraint qualification		

References

[BR05] J. Bonnans and H. Ramírez C. Perturbation analysis of second-order cone programming problems. Mathematical Programming, 2005, 104: 205–227.

[BS00] J. F. Bonnans and A. Shapiro. Perturbation Analysis of Optimization Problems. Springer Science & Business Media, 2000.

[CSS03] Xiongda Chen, Defeng Sun, and Jie Sun. Complementarity functions and numerical experiments on some smoothing Newton methods for second-order-cone complementarity problems. Computational Optimization and Applications, 2003, 25: 39-56.

[DSZ17] Chao Ding, Defeng Sun, and Liwei Zhang. Characterization of the robust isolated calmness for a class of conic programming problems. SIAM Journal on Optimization, 2017, 27(1): 67-90.

[F01] P. Fusek. Isolated zeros of Lipschitzian metrically regular-functions. Optimization, 2001, 49(5-6): 425-446.

[KR92] A. J. King and R. T. Rockafellar. Sensitivity analysis for nonsmooth generalized equations. Mathematical Programming, 1992, 55(2): 193-212.

[KK13] D. Klatte and B. Kummer. Aubin property and uniqueness of solutions in cone constrained optimization. Mathematical Methods of Operations Research, 2013, 77: 291-304.

[L96] A. B. Levy. Implicit multifunction theorems for the sensitivity analysis of variational conditions. Mathematical Programming, 1996, 74: 333-350.

[M94] B. Mordukhovich. Stability theory for parametric generalized equations and variational inequalities via nonsmooth analysis. Transactions of the American Mathematical Society, 1994, 343(2): 609-657.

[OS08] J. V. Outrata and D. Sun. On the Coderivative of the Projection Operator onto the Second-order Cone. Set-Valued Analysis, 2008, 16: 999-1014.