

Directional Hölder Metric Regularity and Applications

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Abstract: This paper sheds new light on regularity of multifunctions through various characterizations of directional Hölder/Lipschitz metric regularity which are based on the concepts of strong slope, coderivative. By using these characterizations, we show that directional Hölder/Lipschitz metric regularity is stable when the multifunction under consideration is perturbed suitably. Applications of directional Hölder/Lipschitz metric regularity to investigate the stability and the sensitivity analysis of parameterized optimization problems are also discussed.

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