

A New Class of Sets Regularity

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Let $A \subset \mathbb{R}^n$ be a closed set let $S \subset \mathbb{R}^n$ be a set containing A . In this talk, we study a new regularity class for A , called S -convexity, introduced in [1] where an inner approximation of a closed set by sets satisfying the interior sphere condition is given. We prove that this new class covers several known regularity properties including the proximal smoothness, the exterior sphere condition and the union of closed balls. As an application of such results, we provide a new sufficient condition for the equivalence between proximal smoothness and the exterior sphere condition studied in [2].

Références

- [1] C. NOUR, H. SAOUD AND J. TAKCHE, *Regularization via sets satisfying the interior sphere condition*, J. Convex Anal., 24(4) (2017), to appear.
- [2] C. NOUR, R.J. STERN AND J. TAKCHE, *Proximal smoothness and the exterior sphere condition*, J. Convex Anal., 16(2) (2009), 501–514.

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