Mathematical
Inequalities
& Applications
Volume 8, Number 1 (2005), 169–172

INEQUALITIES FOR THE DERIVATIVES AND STABLE DIFFERENTIATION OF PIECEWISE–SMOOTH DISCONTINUOUS FUNCTIONS

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Abstract. Formulas for stable differentiation of piecewise-smooth functions are given. The data are noisy values of these functions. The locations of discontinuity points and the sizes of the jumps across these points are not assumed known, but found stably from the noisy data. The results generalize earlier results of the author obtained for smooth functions. The obtained formulas are useful in applications.

Mathematics subject classification (2000): 65D35, 65D05.
Key words and phrases: stable differentiation, noisy data, discontinuities, jumps, signal processing, edge detection.

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Paper MIA-08-16