Non-linear approximation by greedy bases

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In 1999, S. V. Konyagin and V. N. Temlyakov introduced the Thresholding Greedy Algorithm (TGA). The main idea is the following one: given a basis in a Banach space $\mathbb{X}$ and an element $f \in \mathbb{X}$, the algorithm selects the largest coefficients of f in modulus respect to the given basis. The notion of greediness plays a central role in this theory, where a basis is greedy if the TGA produces the best possible approximation.

In this poster, we provide an overview of the main characterizations of greedy bases with a focus on two lines of study: the isometric case, which was initiated by F. Albiac and P. Wojtaszczyk in 2006, and the characterization using polynomials of constant coefficients, which was started by P. M. Berná and O. Blasco in 2017.

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