Abstract
Hans Triebel. Wavelet (para-)bases for function spaces on domains

We survey several aspects of the intense interplay between wavelets (preferably of Daubechies type) and function spaces:

1. Wavelet bases in all spaces $A^s_{pq}(\mathbb{R}^n)$ with

$$A = B, \quad A = F; \qquad s \in \mathbb{R}, \quad 0 < p, q \leq \infty.$$

2. Domains Ω in $\mathbb{R}^n$, Lipschitz and beyond: thick domains (including snowflake domains), (ε, δ)-domains, etc.

3. Wavelet (para-)bases in $A^s_{pq}(\Omega)$ for such domains Ω.

4. Applications: extension problem, compactness, homogeneity, polynomial reproducing formulas.