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Inhomogeneous cancellation conditions and Calderón–Zygmund type operators on local Hardy spaces

In joint work with Chun Ho Lau (Concordia), Tiago Picon (Universidade São Paulo), and Claudio Vasconcelos (Universidade Federal de São Carlos), we present a new approach to atoms and molecules on Goldberg’s local Hardy spaces $h^p(\mathbb{R}^n)$, $0 < p \leq 1$, assuming appropriate cancellation conditions. As applications, we prove a version of Hardy’s inequality and improved continuity results for inhomogeneous Calderón–Zygmund operators on these spaces.