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**Caroline Sweezy\*** ([csweezy@nmsu.edu](mailto:csweezy@nmsu.edu)), Box 30001, 3MB, Las Cruces, NM 88003-8001. *Almost orthogonality related to weighted inequalities on bounded and unbounded domains*. Preliminary report.

The property of almost orthogonality for a family of functions is a necessary condition for obtaining certain Littlewood-Paley type inequalities, which in turn can be used to establish weighted norm inequalities for solutions to harmonic, elliptic and parabolic equations. The method of proving almost orthogonality for a family of functions which also have minimal smoothness and decay properties, turns out to be interesting in and of itself. This talk will concentrate on different proofs of almost orthogonality discovered by the speaker and J. M. Wilson in the course of their research on weighted inequalities. (Received February 16, 2010)