962-42-53 **Robert D Poodiack*** (rpoodiac@norwich.edu), Mathematics Department, 158 Harmon Drive, Northfield, VT 05663. *A two-parameter Littlewood-Paley inequality.*

We prove a new inequality of Littlewood-Paley type for finite sums $f(x,y) = \sum_R \lambda_R \phi_{[R]}(x,y)$ where the functions $\{\phi_{[R]}\}_R$ satisfy mild decay, smoothness, cancellation, and almost-orthogonality conditions. We use a new stopping-time argument which can handle one-parameter linear sums of noncompactly supported functions, in tandem with Lipschitz space results, to obtain the new inequality for the two-parameter sums.

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