

1015-42-118

**Camil Muscalu\*** ([camil@math.cornell.edu](mailto:camil@math.cornell.edu)), Department of Mathematics, Cornell University, Ithaca, NY 14853. *Paraproducts with flag singularities: a case study.*

We will discuss the  $L^p$  boundedness properties of a tri-linear operator whose symbol is given by the product of two standard symbols, satisfying the well known Marcinkiewicz-Hormander-Mihlin condition. Our main result contains the classical Coifman-Meyer theorem as a particular case. This tri-linear operator is the simplest example of a large class of multi-linear operators which we named "paraproducts with flag singularities". (Received January 31, 2006)