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Virginia Naibo and **Alex Thomson*** (thomson521@ksu.edu), Cardwell Hall 138, 1228 N. 17th Street, Manhattan, KS 66506. *Coifman–Meyer multipliers: Leibniz-type rules and applications to scattering of solutions to PDEs.*

Leibniz-type rules for Coifman–Meyer multiplier operators are studied in the settings of Triebel–Lizorkin and Besov spaces associated to weights in the Muckenhoupt classes. Even in the unweighted case, improvements on the currently known estimates are obtained. The flexibility of the methods of proofs allows us to prove Leibniz-type rules in a variety of function spaces that include Triebel–Lizorkin and Besov spaces based on weighted Lebesgue, Lorentz and Morrey spaces as well as variable-exponent Lebesgue spaces. Applications to scattering properties of solutions to certain systems of partial differential equations involving fractional powers of the Laplacian are presented. (Received September 23, 2018)