1117-42-45   **David Cruz-Uribe** and **Virginia Naibo*** (`vnaibo@math.ksu.edu`), Kansas State University, Department of Mathematics, 138 Cardwell Hall, Manhattan, KS 66506. *Kato-Ponce inequalities on weighted and variable Lebesgue spaces.* Preliminary report.

We will present fractional Leibniz rules and related commutator estimates in the settings of weighted and variable Lebesgue spaces. Uniform weighted estimates for sequences of square-function-type operators and a bilinear extrapolation theorem are the main tools developed for such results. We will also comment on applications of the extrapolation theorem to the boundedness on variable Lebesgue spaces of certain bilinear multiplier operators and singular integrals. (Received December 23, 2015)