Amalia Culiuc* (amalia@math.gatech.edu), Francesco Di Plinio and Yumeng Ou. Uniform sparse domination of singular integrals via dyadic shifts.

We give a simple proof that $L^2$-bounded dyadic shifts are dominated by positive sparse forms with linear growth in the complexity of the shift. Using Hytönen’s dyadic representation theorem, our estimate leads to the positive sparse domination of a wide class of singular integrals both in the scalar and in the vector-valued function setting. Furthermore, we obtain an operator norm bound on the matrix weighted space $L^2(W; \mathbb{R}^n)$ depending on the power $3/2$ of the the matrix $A_2$ characteristic, which is the best known dependence to date. (Received September 19, 2016)