1142-26-127   **Amalia Culiuc*** (`aculiuc@amherst.edu`), **Robert Kesler** and **Michael Lacey**. *Sparse bounds for the discrete cubic Hilbert transform.*

For finitely supported functions f on $\mathbb{Z}$, the discrete cubic Hilbert transform is given by

$$H_3 f(n) = \sum_{m \neq 0} \frac{f(n - m^3)}{m}.$$

We prove that there exists $r < 2$ such that H_3 is dominated by an (r, r) sparse form. This result is the first of this type, concerning discrete harmonic analytic operators and immediately implying new weighted inequalities. (Received August 31, 2018)