1172-42-255 **Robert M Kesler**, **Michael T Lacey** and **Dario A Mena*** (dario.menaarias@ucr.ac.cr), 11501 San Jose, Costa Rica. *Sparse bounds for the Discrete Spherical Maximal Function.*

We prove sparse bounds for the spherical maximal operator of Magyar, Stein and Wainger. The bounds are conjecturally sharp, and contain an endpoint estimate. The new method of proof is inspired by ones by Bourgain and Ionescu, is very efficient, and has not been used in the proof of sparse bounds before. The Hardy-Littlewood Circle method is used to decompose the multiplier into major and minor arc components. The efficiency arises as one only needs a single estimate on each element of the decomposition. (Received August 30, 2021)