Robert M Kesler, Michael T Lacey and Dario A Mena* (dario.menaarias@ucr.ac.cr),
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)