1126-83-50   **Henri Petrus Roesch*** (`henri@math.duke.edu`), 120 Science Drive, 117 Physics Building, Box 90320, Durham, NC 27708-0320. *Proof of a Null Penrose Conjecture using a new Quasi-local Mass.*

We define an explicit quasi-local mass functional which is non-decreasing along all foliations (satisfying a convexity assumption) of null cones. We use this functional to prove the null Penrose conjecture under fairly generic conditions. (Received December 20, 2016)