1092-37-338 **Joseph Rosenblatt*** (`rosnbltt@illinois.edu`), Department of Mathematics UIUC, 273 Altgeld Hall, 1409 West Green Street, Urbana, IL 61801. *Optimal Norms in Ergodic Theory.* Preliminary report.

Classical ergodic averages give good norm approximations, but these averages are not necessarily giving the best norm approximation among all possible averages. We consider 1) what the optimal Cesaro norm approximation can be in terms of the transformation and the function, 2) when these optimal Cesaro norms are not (or are) comparable to the norm of the usual ergodic average, and 3) size and oscillatory behavior of the optimal norms and the classical norms. (Received August 13, 2013)

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