1086-05-2775   **Steven Michael Senger*** (`stevensenger@gmail.com`), 120 Wilbur, A9, Newark, DE 19711.
Multiscale approach to the near-unit distance problem.

The near-unit distance problem asks for bounds on the number of point pairs of an arbitrary large finite point set that are nearly a unit distance apart. We offer a novel approach to this problem which yields new upper bounds in a wide class of sets that are out of reach of previously employed techniques. (Received September 25, 2012)