1078-82-195   **Erica Uehara**, Ochanomizu University, 2-1-1 Ohtsuka, Bunkyo-ku, Tokyo, 112-8610, Japan, and
Tetsuo Deguchi* (`deguchi@phys.ocha.ac.jp`), Ochanomizu University, 2-1-1 Ohtsuka,
Bunkyo-ku, Tokyo, 112-8610, Japan. *Universal curve for the distribution function of distance
between two vertices with a given arc length of SAW.* Preliminary report.

Through numerical simulation we measure the distance between such a pair of vertices that are separated by an arc
length λN located on an SAW for a large number of SAW with N vertices on the cubic lattice generated by the Monte
Carlo method. We draw the graphs of distribution function of distance between two such vertices for many different
values of λ and N. Here, fraction λ is greater than or equal to 0.3 and less than 0.9: $0.3 \leq \lambda < 0.9$. We then find out
numerically the existence of a universal curve for the ditribution functions of distance: The graphs for different values of
N or λ completely overlap each other if we plot them in terms of the normalized distance with respect of the square root
of the mean square of distance. This universal curve should be useful for studying the scaling aspects of knotted random
polygons. (Received December 07, 2011)

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