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Shin-ichi Katayama* (katayama@ias.tokushima-u.ac.jp), Department of Mathematical Sciences, Faculty of Integrated Arts and Sciences, Tokushima University, Tokushima, 770-8502, Japan. *On finite simple groups of square order.*

In 1980 M. Newman, D. Shanks and H.C. Williams have investigated a new characterization of the order of finite simple groups. They have shown that a symplectic group $S_p(2n, q)$ has a square order if and only if $n = 2$ and $q = p$, where p is a NSW prime in Acta Arithmetica 38 (1980). In that paper, they have raised the following question.

Is there any finite simple group, other than a symplectic group, having order which is a square?

The purpose of this talk is to announce that there are no other finite simple groups which have square orders. To prove this fact, we need the classification of finite simple groups and elementary properties of square terms in binary recurrence sequences. (Received December 05, 2011)