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Arturo Magidin* (magidin@member.ams.org), 217 Maxim Doucet Hall, P.O. Box 41010, University of Louisiana, Lafayette, LA 70506. *The nonabelian tensor square of nilpotent product of cyclic groups*. Preliminary report.

In 2008, R. Blyth, P. Moravec, and R.F. Morse proved that if $F(n, c)$ is the relatively free nilpotent group of class c and rank n , then the nonabelian tensor square is given by

$$F(n, c) \otimes F(n, c) \cong (F(n, c + 1))' \times F_{\binom{n+1}{2}}^{\text{ab}},$$

where F_k^{ab} is the free abelian group of rank k . They also determined the structure of $(F(m, c))'$, thus completing the description.

The group $F(n, c)$ can be thought of as the c -nilpotent product of n copies of the infinite cyclic group. We discuss extensions of the results above to the c -nilpotent product of arbitrary cyclic groups, provided that no prime less than c divides the order of any finite factor (the "small class" case). (Received August 24, 2011)