

Nielsen periodic point number when the  
fundamental group is the finite product of cyclic  
groups.

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The Nielsen fixed point number  $N(f)$  is a homotopy invariant being the lower bound of the number of fixed points of a self-map  $f : X \rightarrow X$ . In 1982 Boju Jiang introduced similar invariants to estimate the least number of periodic points. The invariants turned to be the best lower bounds in the case of self-maps of compact manifolds of dimension  $\geq 3$ . We will present the formula for one of these invariants, the weighted sum of irreducible essential Reidemeister classes  $\sum_{i=1}^n NP_i(f)$ , which is the lower bound of the number of  $n$ -periodic points in the homotopy class of the given  $f$ . Here we assume that the fundamental group  $\pi_1 X$  is the finite product of cyclic groups  $\mathbb{Z}_p$ .