1051-34-48   **Qingkai Kong*** (`kong@math.niu.edu`), Department of Mathematical Sciences, Northern Illinois University, DeKalb, IL 60115, and **Min Wang**. *Positive solutions of even order system periodic boundary value problems.*

We study an even order system boundary value problem with periodic boundary conditions. By establishing the existence of a positive eigenvalue of certain associated linear Sturm-Liouville problem and using the fixed point index theory, we obtain results on the existence of positive solutions. A series of criteria are also derived for the existence of an arbitrary and even countably infinite number of positive solutions, together with a criterion for the nonexistence. Our results extend, improve, and supplement those in the literature for related scalar and system boundary value problems. (Received August 05, 2009)