

## ON POSITIVE SOLUTION FOR A CLASS OF QUASILINEAR ELLIPTIC SYSTEMS WITH SIGN-CHANGING WEIGHTS

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*Abstract.* In this paper, we consider the problem for the existence of positive solutions of quasilinear elliptic system

$$\begin{cases} -\Delta_p u = \lambda a(x)u^\alpha v^\gamma, & x \in \Omega, \\ -\Delta_q v = \lambda b(x)u^\eta v^\beta, & x \in \Omega, \\ u = v = 0, & x \in \partial\Omega, \end{cases}$$

where the  $\lambda > 0$  is a parameter,  $\Omega$  is a bounded domain in  $\mathbb{R}^N$  ( $N > 1$ ) with smooth boundary  $\partial\Omega$ , and the  $\Delta_p z = \operatorname{div}(|\nabla z|^{p-2}\nabla z)$  is the  $p$ -Laplacian operator. Here  $a(x)$  and  $b(x)$  are  $C^1$  sign-changing functions that maybe are negative near the boundary. Using the method of sub-super solutions and comparison principle, which studied the existence of positive solutions for quasilinear elliptic system. The main results of the present paper are new and extend the previously known results.

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