

1033-35-19

Ratnasingham Shivaji, Dept of Mathematics, Mississippi State University, Mississippi State, MS 39762, and **Jinglong Ye***, Dept of Mathematics, Mississippi State University, Mississippi State, MS 39762. *Nonexistence Results For Classes Of Elliptic Systems.*

We consider the system

$$-\Delta u = \lambda f(u, v); x \in \Omega$$

$$-\Delta v = \lambda g(u, v); x \in \Omega$$

$$u = 0 = v; x \in \partial\Omega,$$

where Ω is a ball in R^N , $N \geq 1$ and $\partial\Omega$ is its boundary, λ is a positive parameter, and f, g are smooth functions that are negative at the origin (semipositone system) and satisfy certain linear growth conditions at infinity. We establish nonexistence of positive solutions when λ is large. Our proofs depend on energy analysis and comparison methods.

(Received July 17, 2007)