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Maya Chhetri* (maya@uncg.edu), Department of Mathematics and Statistics, UNC Greensboro, Greensboro, NC 27402, and **Petr Girg**. *Local behavior of Continua of Solutions for Asymptotically Linear Systems.*

We consider an elliptic system of the form

$$\left. \begin{aligned} -\Delta u &= \lambda\theta_1 a(x)v + f(\lambda, x, v) & \text{in } \Omega \\ -\Delta v &= \lambda\theta_2 a(x)u + g(\lambda, x, u) & \text{in } \Omega \\ u = 0 &= v & \text{on } \partial\Omega, \end{aligned} \right\}$$

where $\lambda \in R$ is a parameter, $\theta_1, \theta_2 > 0$, $a(x) \in L^\infty(\Omega)$, $a(x) \geq 0$ a.e. in Ω and Ω is a bounded domain in R^N with $C^{2,\alpha}$ -boundary $\partial\Omega$. Here $f, g : R \times \Omega \times R \rightarrow R$ are Carathéodory functions that are either sublinear at infinity or bounded. We provide sufficient conditions for determining the λ -direction in which a continuum of positive solutions emanates from infinity at the first eigenvalue of associated linear problem. (Received September 15, 2013)