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We study positive solutions to the steady state reaction diffusion equation of the form:

$$\begin{cases} -\Delta u = \lambda f(u); \Omega \\ \frac{\partial u}{\partial \eta} + \sqrt{\lambda}u = 0; \partial\Omega \end{cases} \quad (1)$$

where $\lambda > 0$ is a positive parameter, Ω is a bounded domain in \mathbb{R}^N ; $N > 1$ with smooth boundary $\partial\Omega$ or $\Omega = (0, 1)$, $\frac{\partial u}{\partial \eta}$ is the outward normal derivative of u , $f(s) = ms + g(s)$ with $m \geq 0$ is a constant and $g : [0, \infty) \rightarrow [0, \infty)$ is an increasing function which is sublinear at infinity satisfying $g(0) = 0$. In particular, we discuss the existence of multiple positive solutions for certain ranges of λ leading to the occurrence of Σ -shaped bifurcation diagrams. We establish our multiplicity results via the method of sub-supersolutions. (Received January 11, 2021)