1139-35-402 **Stephen B Robinson*** (sbr@wfu.edu) and **Mauricio Rivas**. *Characterizing Steklov-Robin Eigencurves.*

This paper is motivated by the study of eigencurves associated with boundary value problems such as

$$\begin{aligned} -\Delta u(x) &= \mu\, m_0(x)\, u(x) \quad \text{for } x \in \Omega \\ \frac{\partial u}{\partial \nu}(x) \;+\; c(x)\, u(x) &= \lambda\, b_0(x)\, u(x) \quad \text{for } x \in \partial\Omega, \end{aligned}$$

where c, b_0, m_0 are given functions in appropriate L^p-spaces on a smooth bounded region Ω in $\mathbb{R}^N$, and λ, μ are real eigenparameters. Here, m_0 is assumed to be strictly positive, b_0 may be sign-changing, and ν denotes the outward normal vector. The weak formulation of this problem leads to an analysis of abstract eigencurve problems associated with triples (a, b, m) of continuous symmetric bilinear forms on a real Hilbert space V.

Our main result generalizes the geometric characterization of eigencurves given for *Sturm-Liouville* problems proved by Binding and Volkmer . We also expand on the issues regarding continuity, differentiability, and asymptotics of eigencurves. (Received February 17, 2018)