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**Charles L Lamb\*** (clamb@math.ku.edu), Department of Mathematics, 405 Snow Hall, 1460 Jayhawk Blvd, Lawrence, KS 66045, and **Erik S Van Vleck**. *Neutral Equation of Mixed.*

We extend the linear Fredholm theory for mixed type functional differential equations (with both advances and delays) to neutral equations of mixed type. We consider a prototype problem consisting of coupling between two nerve fibers which results in a system of neutral type equations. We employ the developed linear theory in conjunction with Lyapunov-Schmidt and numerical results to show existence for small values of the coupling parameter. (Received September 22, 2011)