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Chris Kottke*, Department of Mathematics, Northeastern University, 360 Huntington Ave,
Boston, MA 02115. *Callias' index theorem and monopole deformation.*

I will discuss an extension of the classical index theorem of Callias, the principal application of which is a computation of the virtual dimension of the moduli space of $SU(2)$ magnetic monopoles on asymptotically conic 3-manifolds. I will also discuss ongoing work on the construction of such monopoles by gluing methods. (Received August 13, 2013)