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**Carlos J Almada\*** ([almada\\_carlos@colstate.edu](mailto:almada_carlos@colstate.edu)), Department of Mathematics, Columbus State University, 4225 University Ave, Columbus, GA 31907. *The Hessian of a Harmonic Reduction.*

In this work, following ideas of Eells-Lemaire, we define the notion of Hessian of a section  $\sigma \in \Gamma(M, P/H)$ . We obtain an explicit formula for the Hessian and in the case that  $\sigma$  is a harmonic reduction, we show the Hessian is symmetric. The notion of stability for harmonic reductions is also introduced. (Received January 30, 2009)