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Shusen Ding* (sding@seattleu.edu), 24302 SE 3rd PL, Redmond, WA 98053. *Parametric Versions of the Weighted Caccioppoli-type Inequalities for A-Harmonic Tensors.*

A differential form u is called an A -harmonic tensor if u satisfies the A -harmonic equation: $d * A(x, du) = 0$, where A is an operator satisfying some conditions, d is a differential operator and d^* is its formal adjoint operator defined by the Hodge star operator. Similarly, a differential form u is called a p -harmonic tensor if $d * (|du|^{p-2} du) = 0$ and $d * u = 0$, where $p > 1$. It is easy to see that p -harmonic tensors are extensions of p -harmonic functions and A -harmonic tensors are generalizations of p -harmonic tensors. In this talk, we prove parametric versions of the weighted caccioppoli-type inequality for A -harmonic tensors. By choosing the parameter to be fixed values, we find that some existing results are special cases of our results. (Received September 07, 2000)