Title: Variation problems and E-valued horizontal harmonic forms on Finsler manifolds

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This paper is mainly to find the variation backgrounds of strongly harmonic maps and strongly minimal immersions between Finsler manifolds, and obtain an equivalent statement of strongly harmonic map. First, an explicit example of non-trivial strongly minimal immersions is given. By using the vertical Laplacian, we introduce the notions of vertical mean value operator and vertical mean value section. We define the generalized energy functionals and the volume functionals, and prove that they are critical points for appropriate variations. Finally, we give the definition of horizontal harmonic p-forms with values in a vector bundle E via the horizontal Laplacian and derive the relation between an E-valued h-harmonic 1-form and a strongly harmonic map.

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