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A special class of p -harmonic maps inducing calibrated fibrations

Let (M, g) be a Riemannian manifold equipped with a calibration form α . In earlier work with Cheng and Madnick (AJM 2021), we introduced a special class of p -harmonic maps into M satisfying a first order nonlinear PDE, whose images are α -calibrated submanifolds of M . In new joint work with my PhD student Anton Iliashenko, we have obtained analogous results for maps out of M . More precisely, we define a special class of p -harmonic maps out of M , satisfying a first order nonlinear PDE, whose fibres are α -calibrated submanifolds of M . I will also discuss very speculative potential future applications to existence of calibrated fibrations and the Strominger-Yau-Zaslow conjecture.