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On Extrinsic Geometry of Codimension-One Foliations

This is a survey lecture about author's results (published in ArXiv preprints and a SpringerBriefs book in common with P. Walczak from Lodz). We discuss a new approach to study extrinsic geometry of codimension-one foliations.

We start with formulae for the deformation of extrinsic geometric quantities as the Riemannian metric varies along the leaves. Then, we find variations of functionals depending on the principal curvatures of the leaves (in particular, for conformal along the leaves variations of metrics).

Finally, we give applications to extrinsic Geometric Flows.