

CHANGE OF VARIABLES IN INTEGRAL

ABSTRACT. Advanced versions of theorems on change of variables in integral (area formula, coarea formula) will be discussed. Particularly we focus our attention to the case when the target dimension coincides with the dimension of the domain. This is relevant for applications in analysis of nonlinear classes of mappings like mappings of finite distortion, bi-*Sobolev* mappings or $A_{p,q}$ mappings. These classes, in turn, may be considered as classes of competing deformations in nonlinear elasticity. We list various methods to obtain the Lusin's condition (N), as the method of absolute continuity, the method of degree or methods based on modulus of continuity. The most recent of the included results have been obtained as a joint work with Pekka Koskela and Thomas Zürcher.