TWO-FOLD COVERING, ERGODICITY OF HIGHER DIMENSIONAL ACTIONS

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Abstract. An acton $\mathcal{G}$ on manifold M is *locally expanding or expanding*, for short, if for any $x \in M$ there is an element $g_x \in \mathcal{G}$ such that

$$m(Dg_x(x)) > 1,$$

where the $m(A)$ is the co-norm of linear map A. In this talk, we discuss about the local ergodicity of expanding actions. The ergodicty of such actions is now considered classical in one dimensional case. At the first, we state the abstractions to extending the one dimensional strategy to the higher dimensional cases and then introducing the notion of two-fold covering property, we try to overcome the problem. As the main result, we prove that *any invariant set of a sufficiently smooth expanding action contains an open ball.*

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