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On L^p inequality for differential forms and L^p cohomology of a semialgebraic set for $p \gg 1$

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We study Poincaré type L^p inequality on a compact semialgebraic subset of \mathbb{R}^n for $p \gg 1$. First we derive a local inequality by using a Lipschitz deformation retraction with estimates on its derivatives. Then, we extend the local inequality to a global inequality by employing double complex technique. As a consequence we obtain an isomorphism between L^p cohomology and singular cohomology of a normal compact semialgebraic pseudomanifold.

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