Workshop dedicated to the memory of Professor Gabriela Kohr
(2nd edition)
Geometric Function Theory in Several Complex Variables and Complex Banach Spaces

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The Mabuchi geometry of low energy classes

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Abstract

Let (X, ω) be a Kähler manifold and $\psi : \mathbb{R} \to \mathbb{R}_+$ be a concave weight. We show that the space of smooth Kähler potentials admits a natural metric d_ψ whose completion is the low energy space $\mathcal{E}_\psi$, introduced by Guedj-Zeriahi. As d_ψ is not induced by a Finsler metric, the main difficulty is to show that the triangle inequality holds.