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Distances between measures from 1-dimensional projections as implied by continuity of the inverse Radon transform. (English) Zbl 0555.28005

Z. Wahrscheinlichkeitstheor. Verw. Geb. 70, 361-380 (1985).

Distances between measures on \mathbb{R}^d are determined from distances between their 1-dimensional projections. The method employed involves considering the 1-dimensional projections to be the Radon transform of the measures. Crucial to the main theorem is a continuity result for the inverse Radon transform. Focus is restricted to the Prohorov, dual bounded Lipschitz and d_k metrics which metrize weak convergence of probability measures. These metrics are related to each other and to the Sobolev norms. The d_k results extend from measures to generalized functions.

MSC:

28A33 Spaces of measures, convergence of measures
46E27 Spaces of measures
44A05 General integral transforms
60F05 Central limit and other weak theorems
62E20 Asymptotic distribution theory in statistics

Cited in **1** Review
Cited in **4** Documents

Keywords:

distances between measures; inverse Radon transform; weak convergence of probability measures; Sobolev norms

Full Text: [DOI](#)

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