

Total Convexity for Powers of the Norm in Uniformly Convex Banach Spaces

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Abstract: The aim of the paper is to show that, in uniformly convex Banach spaces, the powers of the norm with exponent $r > 1$ share a property called total convexity. Using this fact we establish a formula for determining Bregman projections on closed hyperplanes and half spaces. This leads to a method for solving linear operator equations (e.g., first order Fredholm and Volterra equations) in spaces which are uniformly convex and smooth.

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