91. Zvi Artstein and Cristian Contantin Popa, **Convexity and the natural best approximation in spaces of Young measures.** J. Convex Analysis, 10 (2003), 169-184.

Abstract. The natural best approximation in function spaces singles, out of the family of best L_1-approximation of an integrable function in a convex set, the element which is the limit as p converges to 1+, of the unique best L_p-approximation of the function. The present paper extends the result to convex sets in spaces of integrable Young measures. Such spaces lack a standard affine structure. In this paper convexity is considered via a limiting procedure. Consequently, the proof of the existence of a natural best approximation does not rely on tools like weak convergence, available in an ordinary function space. Rather, the interplay of compactness and convexity in the relaxed setting plays a major role.

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