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Continuity of the metric projection on convex sets. (English. Russian original) [Zbl 0816.46011](#)
Math. Notes 52, No. 6, 1173-1177 (1992); translation from *Mat. Zametki* 52, No. 6, 3-9 (1992).

Summary: The continuity of the metric projection on convex sets has been studied since the fifties and sixties. A survey of these investigations has been given by *E. V. Oshman* [*Mat. Zametki* 37, No. 2, 200-211 (1985; [Zbl 0586.41026](#))]. In this note we present a series of additional considerations, and we refine some isolated results.

MSC:

- [46B20](#) Geometry and structure of normed linear spaces
- [41A50](#) Best approximation, Chebyshev systems
- [41A65](#) Abstract approximation theory (approximation in normed linear spaces and other abstract spaces)

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References:

- [1] E. V. Oshman, ?On the continuity of the metric projection,? *Mat. Zametki*,37, No. 2, 200-211 (1985). · [Zbl 0586.41026](#)
- [2] L. P. Vlasov, ?The concept of approximative compactness and its variants,? *Mat. Zametki*,16, No. 2, 337-348 (1974).
- [3] E. V. Oshman, ?On the continuity of metric projection in a Banach space,? *Mat. Sb.*,80 (122), 181-194 (1969).
- [4] E. V. Oshman, ?On the continuity of the metric projection onto convex closed sets,? *Dokl. Akad. Nauk SSSR*,269, No. 2, 289-291 (1983). · [Zbl 0531.41029](#)
- [5] E. V. Oshman, ?Chebyshev sets, continuity of the metric projection and certain geometric properties of the unit sphere in a Banach space,? *Izv. Vyssh. Uchebn. Zaved., Matematika*, No. 4, 38-46 (1969).
- [6] R. T. Rockafellar, *Convex Analysis*, Princeton Univ. Press, Princeton (1970). · [Zbl 0193.18401](#)
- [7] E. Bishop and R. R. Phelps, ?A proof that every Banach space is subreflexive,? *Bull. Am. Math. Soc.*,67, No. 1, 97-98 (1961). · [Zbl 0098.07905](#) · [doi:10.1090/S0002-9904-1961-10514-4](#)
- [8] L. P. Vlasov, ?Approximative properties of sets in normed linear spaces,? *Uspekhi Mat. Nauk*,28, No. 6, 3-66 (1973). · [Zbl 0293.41031](#)
- [9] N. V. Nevesenko, ??-continuity of the metric projection onto convex closed sets,? *Mat. Zametki*,23, No. 6, 845-854 (1978).
- [10] N. V. Nevesenko and E. V. Oshman, ?Metric projection into convex sets,? *Mat. Zametki*,31, No. 1, 117-126 (1982). · [Zbl 0578.41038](#)
- [11] L. V. Kantorovich and G. P. Akilov, *Functional Analysis [in Russian]*, Nauka, Moscow (1977). · [Zbl 0127.06102](#)
- [12] L. P. Vlasov, Properties of generalized elements of the best approximation,? *Mat. Zametki*,24, No. 4, 513-522 (1978). · [Zbl 0419.41026](#)

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