Remark about characterization of 2-inner product

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Characterization of the 2-inner product is the focus of interest of many mathematicians. In this paper, proofs of two characterizations of 2-inner product, which are actually consequences of the Theorem 1 ([3]), are given. Generalizations of already know Hayashi (see [1], pg. 297) and Zarantonello ([2]) inequalities are fully elaborated as well.

REFERENCES

[1] D. S. Mitrinović, J. E. Pečarić, V. Volenec, *Recent Advances in Geometric Inequalities*, Kluwer Academic Publisher, 1989.

[2] E. H. Zarantonello, *Projections on convex sets in Hilbert spaces and spectral theory*, Contributions to Nonlinear Functional Analysis, Acad. Press., New York, 1971, 237–424.

[3] S. Malčeski, K. Anevska, R. Malčeski, *New characterization of 2-pre-Hilbert Space*, Matematički bilten, Vol. 38(XLIV), No. 1 (2014), 31–38.