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Turning the Cauchy-Schwarz inequality into an equality.

It will be illustrated in this talk how the theory of Archimedean vector lattices is a convenient apparatus for shedding new light on classical results. In particular, we provide an identity involving semi-inner product-like maps from the Cartesian square of a vector space into an Archimedean vector lattice from which a generalization of the classical Cauchy-Schwarz inequality immediately follows. (Received September 25, 2017)