

**ZMATH 2007f.00384**

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**A very simple and elementary proof of a theorem of Ingelstam.**

Am. Math. Mon. 111, No. 1, 54-58 (2004).

The theorem in question states that a unital Banach algebra over the field  $\mathbb{R}$  whose underlying Banach space is a (real) Hilbert space is isomorphic to one of the algebras  $\mathbb{R}$ ,  $\mathbb{C}$  or  $\mathbb{H}$  (= quaternions), cf. [*I. Ingelstam*, Math. Scand. 11, 22–32 (1962; Zbl 0122.35003)]. The paper under review certainly lives up to its title since no Banach algebra theory and barely any Hilbert space theory is used; incidentally, completeness turns out to be inessential for the theorem. The only criticism I have is that the author's reasoning for Fact 1 only works if the set  $S$  is assumed orthonormal and that the name Schwarz in Cauchy-Schwarz inequality is misspelt two thirds of the time.

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*Classification:* I95

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