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ON ONE QUESTION OF ED SAFF*

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Dedicated to Ed Saff on the occasion of his 60th birthday

Abstract. In relation to Fourier-Padé approximation, Ed Saff observed that Taylor and Lagrange interpolation projections satisfy the following property:

$$P(f) \cdot P(g) \in \Pi_n \Longrightarrow P(f \cdot g) = P(f) \cdot P(g).$$

We classify all projections that satisfy this property, thus answering a question of Saff. Some error formulas for approximation with the above-mentioned projections are also produced.

Key words. ideal projection, Hermite interpolation, error formula

AMS subject classifications. 41A05, 41A10, 41A45, 41A80

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