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ON THE EIGENSTRUCTURE OF THE BERNSTEIN KERNEL*

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

Abstract. In approximation theory a common technique is to assume duality behavior between the Bernstein operator and the transformation matrix between the standard basis and the Bernstein basis. In this paper we shall produce an example that this assumption is not always correct. In particular, the eigenstructures of the operator and the transformation Matrix are distinguished.

Key words. eigenstructure, Bernstein operator, Bernstein polynomial basis

AMS subject classifications. 42C15, 42C30

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