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HOMOMORPHISMS OF l^1 -ALGEBRAS ON SIGNED POLYNOMIAL HYPERGROUPS

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ABSTRACT. Let $\{R_n\}$ and $\{P_n\}$ be two polynomial systems which induce signed polynomial hypergroup structures on \mathbb{N}_0 . We investigate when the Banach algebra $l^1(\mathbb{N}_0, h^R)$ can be continuously embedded into or is isomorphic to $l^1(\mathbb{N}_0, h^P)$. We find sufficient conditions on the connection coefficients c_{nk} given by $R_n = \sum_{k=0}^n c_{nk}P_k$, for the existence of such an embedding or isomorphism. Finally we apply these results to obtain amenability-properties of the l^1 -algebras induced by Bernstein-Szegő and Jacobi polynomials.

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