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COMPLETELY POSITIVE LINEAR MAPS ON MAXIMAL AND MINIMAL OPERATOR SYSTEM STRUCTURES

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Abstract. An s-entanglement breaking map between operator systems is a point-norm limit of entanglement breaking maps, which are a generalization of the corresponding notion in matrix algebras. We develop some of the key properties of this map, and obtain some conditions when the completely positive linear maps between operator systems coincide with the s-entanglement breaking maps. Especially we show that a linear map from a nuclear operator system to the maximal operator system structure of an Archimedean ordered $*$-vector space is completely positive if and only if it is s-entanglement breaking. We also discuss the relationships between s-entanglement breaking maps and weak*-entanglement breaking maps, and nuclear maps between operator systems.

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