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**Abstract:** In this paper is presented a relationship between the synchronization and the topological entropy. We obtain the values for the coupling parameter, in terms of the topological entropy, to achieve synchronization of two unidirectional and bidirectional coupled piecewise linear maps. In addition, we prove a result that relates the synchronizability of two m-modal maps with the synchronizability of two conjugated piecewise linear maps. An application to the unidirectional and bidirectional coupled identical chaotic Duffing equations is given. We discuss the complete synchronization of two identical double-well Duffing oscillators, from the point of view of symbolic dynamics. Working with Poincare cross-sections and the return maps associated, the synchronization of the two oscillators, in terms of the coupling strength, is characterized.

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