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Serge C Ballif* (ballifserge@gmail.com). *Conditions for Embedding a Partial Latin Square Inside a Latin Square of a Given Order*. Preliminary report.

We provide necessary and sufficient conditions for a latin square of order n to be embedded inside a latin square of order $n + k$. This builds upon the work of T. Evans who showed that each partial latin square of order n may be embedded inside a latin square of order t for each $t \geq 2n$. We also determine how many of the n^2 entries of a given latin square of order n can be preserved in (the upper left corner of) a latin square of order $n + k$. (Received September 22, 2010)