

Abstract submitted for Thirty-Third Annual Victorian Algebra Conference

Title: Embedding partial Latin squares in Cayley tables

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A partial Latin square (PLS) can be thought of as a finite set of triples where no two distinct triples agree in more than one position. A group operation \circ can be defined by triples of the form $(g, h, g \circ h)$. We say that a PLS embeds in a group if the set of triples which define the group contains an (appropriately relabelled) copy of the PLS.

In this talk I will briefly survey some combinatorial problems related to embeddings of PLS in groups. I will then present some new results that answer questions published by Denes and Keedwell, and by Hirsch and Jackson. The most interesting of these questions turns out to be “What is the smallest PLS that can be embedded into some infinite group but does not have an embedding into any finite group?”