Fu, H.-L.; Lindner, C. C.
The Doyen-Wilson theorem for maximum packings of $K_n$ with 4-cycles. (English)

An edge-disjoint collection $P$ of 4-cycles of the complete graph $K_n$ with $n$ vertices is said to be a packing of $K_n$ with 4-cycles. The set of edges of $K_n$ not belonging to a 4-cycle in $P$ is called the leave of $P$. If $|P|$ is maximum among all packings of $K_n$ with 4-cycles, then $P$ is called a maximum packing of $K_n$ with 4-cycles.

The authors describe necessary and sufficient conditions to embed a maximum packing of $K_m$ with 4-cycles into a maximum packing of $K_n$ with 4-cycles, both when the leave of the given packing is preserved, and when the leave is not necessarily preserved.

Reviewer: E. Schulte (Boston)

MSC:
05B40 Combinatorial aspects of packing and covering
05B30 Other designs, configurations
05B07 Triple systems

Keywords:
Doyen-Wilson theorem; embeddings; triple systems; complete graph; leave; maximum packing

Full Text: DOI

References:
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