

Outside perfect 8-cycle systems

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Abstract

The two 4-cycles (a, b, c, d) and (e, f, g, h) are called the outside 4-cycles of the 8-cycle (a, b, c, d, e, f, g, h) . Given an 8-cycle system, if we can form a 4-cycle system by choosing two outside 4-cycles from each 8-cycle in the system, then the 8-cycle system is called outside perfect. In this talk we will show that an outside perfect maximum packing of K_n with 8-cycles of order n exists for all $n \geq 8$, except $n = 9$, for which no such system exists.

Keywords: 8-cycle system, outside perfect, maximum packing

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