Bicyclic Steiner triple systems. (English summary)


R. Peltesohn [Compositio Math. 6 (1938), 251–257; Zbl 20, 49] proved that a Steiner triple system of order \( v \) having an automorphism consisting of a single cycle of length \( v \), exists if and only if \( v \equiv 1 \) or 3 mod 6 and \( v \neq 9 \). In more recent years, quite a lot of work has been done on the existence problem for Steiner triple systems admitting a specified automorphism. In the present paper, the authors solve the problem for automorphisms whose disjoint cyclic decomposition consists of exactly two cycles. 

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