

MR1185002 (93g:05021) 05B07**Gardner, Robert B.** [[Gardner, Robert Bentley](#)] (1-ABRN-AL)**Steiner triple systems with near-rotational automorphisms. (English summary)***J. Combin. Theory Ser. A* **61** (1992), *no. 2*, 322–327.

Summary: “A Steiner triple system of order v , denoted $\text{STS}(v)$, is said to be k -near-rotational if it admits an automorphism consisting of three fixed points and k cycles of length $(v-3)/k$. In this paper, we show that, for $n \geq 1$, a $2n$ -near-rotational $\text{STS}(v)$ exists if and only if $v \equiv 1$ or $3 \pmod{6}$, $v \equiv 3 \pmod{2n}$, and $v \neq 13$ or 21 when $n = 1$. Also, for $n \geq 1$, a $3n$ -near-rotational $\text{STS}(v)$ exists if and only if $v \equiv 3 \pmod{6}$ and $v \equiv 3 \pmod{3n}$.”

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