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THE STRUCTURE OF QUASIFIELDS OF SMALL EVEN ORDERS

V. M. Levchuk, P. K. Shtukkert

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We study the structure of a finite quasifield: maximal subfields, the orders of nonzero elements of its multiplicative loop, and the conjecture that the multiplicative loop of any finite semifield is one-generated. We consider the structure of all semifields of order 16; the Knuth–Rua semifield of order 32, which disproves Wene's conjecture; and representatives of isotope classes of quasifields of orders 16 and 32.

Keywords: finite quasifield, maximal subfield, order of a nonzero element, conjecture that the multiplicative loop of any finite semifield is one-generated.

V. M. Levchuk Dr. Phys.-Math. Sci., Prof., Siberian Federal University, Krasnoyarsk, 660041 Russia, e-mail: vlevchuk@sfu-kras.ru.

P. K. Shtukkert Cand. Phys.-Math. Sci., Siberian Federal University, Krasnoyarsk, 660041 Russia, e-mail: Poli422@yandex.ru.

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