

Behnam Ebrahimzadeh, Alireza K. Asboei

A characterization of symplectic groups related to Fermat primes

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Abstract: We proved that the symplectic groups $\mathrm{PSp}(4, 2^n)$, where $2^{2^n} + 1$ is a Fermat prime number is uniquely determined by its order, the first largest element orders and the second largest element orders.

Keywords: element order; the largest element order; prime graph; symplectic group

AMS Subject Classification: 20D06, 20D60

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