Pan, V. Y.
New fast algorithms for polynomial interpolation and evaluation on the Chebyshev node set. (English) Zbl 0914.65002

Let \( A = \{ \cos((2k + 1)/(2n + 2))\pi \}_{k=0, \ldots, n} \), the author proves the following results: interpolation to a polynomial of a degree at most \( n \) on the node set \( A \) can be performed by using \( O(n \log n) \) arithmetic operations; a polynomial of degree at most \( n \) can be evaluated on the node set \( A \) at the cost of \( O(n \log n) \) arithmetic operations.

Reviewer: N.Țăndăreanu (Craiova)

MSC:
65D05 Numerical interpolation
65Y20 Complexity and performance of numerical algorithms

Keywords:
polynomial interpolation; Chebyshev nodes; computational complexity; fast algorithms

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References:

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