Electronic Transactions on Numerical Analysis. Volume 25, pp. 206-223, 2006. Copyright © 2006, Kent State University. ISSN 1068-9613.



ON WEIGHTED (0, 2)**-TYPE INTERPOLATION***

MARGIT LÉNÁRD †

Dedicated to Ed Saff on the occasion of his 60th birthday

Abstract. The weighted (0,2)-interpolation with additional Hermite-type conditions is studied in a unified way with respect to the existence, uniqueness and representation (explicit formulae). Sufficient conditions are given on the nodes and the weight function, for the problem to be regular. Examples are presented on the zeros of the classical orthogonal polynomials.

Key words. Birkhoff interpolation, Pál-type interpolation, Hermite interpolation, weighted (0,2)-interpolation, regularity, explicit formulae

AMS subject classification. 41A05

^{*}Received May 2, 2005. Accepted for publication January 17, 2006. Recommended by X. Li. The research was supported by the grant SM 01/03, given by the Research Administration of Kuwait University.

[†]Department of Mathematics and Computer Science, Kuwait University, P. O. Box 5969, 13060 Safat, Kuwait (lenard@mcs.sci.kuniv.edu.kw).

²⁰⁶