the p's with a small absolute value ($p \in P_1$) and replace $I_p(f)$ simply by zero for the other $p \in P$ (the approximation $\{B_p\}$ from Theorem 5.4).

In addition, if we start replacing by zero from $I_{p_{n+1}}$, there is no reason to choose p_{n+1} in such a way that (with the arrangement of the set P introduced in Sec. 5) $p_{n+1} = -p_n$. In such a case it is better either to set $I_{p_n} \approx 0$ as well (the approximation $\{C_p\}$ from Theorem 5.10) or to use the approximation $\{\hat{B}_p\}$ from Theorem 5.14. The latter of the two possibilities means to evaluate one functional $a_k(f)$ more in comparison with the former, but it may decrease the error of the approximation by a factor of $1/\sqrt{2}$.

The question is to what extent this gain is substantial. Another question, which is of more importance and has not yet been settled, is what information about f should be at our disposal in order to approve the use of more complex systems $\{g_k(p)\}$.

To approximate I_p on P_1 we have used the trapezoidal rule functionals $L_p^{(j)}$ throughout the paper. Obviously, if we replace $L_p^{(j)}$ in $\{B_p^{(j)}\}$, $\{C_p^{(j)}\}$ or $\{\hat{B}_p^{(j)}\}$ by other functionals converging to I_p in the norm, we obtain an asymptotically optimal universal sequence of approximations again. The choice of $L_p^{(j)}$ was implied by the availability of the proof of convergence in this case [2].

Moreover, if we use not right I_p in $\{B_p\}$ etc., but some other approximating functionals such that the decisive part of the error resulted will be that of replacing by zero, we shall find that most results of Sec. 5 concerning $\{B_p\}$ etc. hold for the new approximations without any change.

Finally, we point out that it may be readily seen that, with a fixed set P, the conclusions of Sec. 5 are valid not only for the class $\mathfrak{H}_3$, but also for the class of periodic spaces $\mathfrak{H}_P$ such that every space $H \in \mathfrak{H}_P$ has the properties (c) and (d) for all $k \in P$, $j \in P$.

References

[1] *I. Babuška:* Über die optimale Berechnung der Fourierschen Koeffizienten, Aplikace matematiky *11*, pp. 113—122 (1966).

[2] *I. Babuška:* Über universal optimale Quadraturformeln, Aplikace matematiky *13*, pp. 304 to 338, 388—404 (1968).

[3] *I. Babuška, S. L. Sobolev:* Оптимизация численных методов, Aplikace matematiky *10*, pp. 96—129 (1965).

[4] *В. И. Крылов, Л. Г. Кругликова:* Справочная книга по численному гармоническому анализу, Наука и техника, Минск 1968.

[5] *I. J. Schoenberg:* Spline interpolation and best quadrature formulae, Bull. Am. Math. Soc. *70* (1964).

[6] *K. Segeth:* On universally optimal quadrature formulae involving values of derivatives of integrand, Czech. Math. J. *19 (94)*, pp. 605—675 (1969).

[7] *H. J. Stetter:* Numerical approximation of Fourier-transforms, Num. Math. *8*, pp. 235—249 (1966).

Author's address: Praha 1, Žitná 25 (Matematický ústav ČSAV v Praze).