

Expert report on
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Norm convergence of Fejér means of two-dimensional
Walsh-Fourier series

It is known that the maximal operator σ^* of the two-dimensional Fejér means $\sigma_{n,m}f$ of the Walsh-Fourier series is bounded from H_p to L_p if $p > 1/2$. In this paper it is proved that this is not true for $p = 1/2$, since there exists $f \in H_{1/2}$ such that $\sigma_{n,n}f$ is not uniformly bounded in weak $L_{1/2}$.

Since the result is new, after taking into account the following remarks, I suggest to accept the paper for publication.

p.1.1.-12: Schipp's result.

p.1.1.15: was extended

p.3.1.6: $f = (f^{(n,m)}, n, m \in \mathbb{N})$

p.4.1.1: is defined

p.4.1.-2: Theorem W3 is not true in this form, see [10]. However, the "if" part is true, and this part is used later, only.

p.5.1.5: $\|f\|_{H_p} \leq \inf \dots$ instead of $\|f\|_{H_p} \sim \inf \dots$

p.5.1.13: exists an.