CONJUGATE TRANSFORMS ON DYADIC GROUP

USHANGI GOGINAVA AND ALEKSANDRE SAATASHVILI

ABSTRACT. In this paper we study the properties of the Lebesgue constant of the conjugate transforms. For conjugate Fejér means we will find necessary and sufficient condition on t for which the estimation $E\left|\widetilde{\sigma}_{n}^{(t)}f\right| \lesssim E\left|f\right|$ holds . We also prove that for dyadic irrational t, $L\log L$ is maximal Orlicz space for which the estimation $E\left|\widetilde{\sigma}_{n}^{(t)}f\right| \lesssim 1 + E\left(\left|f\right|\log^{+}\left|f\right|\right)$ is valid.

I. VEKUA INSTITUTE OF APPLIED MATHEMATICS AND FACULTY OF EXACT AND NAT-URAL SCIENCES OF I. JAVAKHISHVILI TBILISI STATE UNIVERSITY, TBILISI 0186, 2 UNI-VERSITY STR., GEORGIA

Email address: zazagoginava@gmail.com

ALEKSANDRE SAATASHVILI, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, 77 MAS-SACHUSETTS AVE, CAMBRIDGE, MA 02139, UNITED STATES Email address: s.saatashvili@hotmail.com

⁰2010 Mathematics Subject Classification. 42C10, 60G42.

Key words and phrases: Conjugate Walsh transform, Martingale transform, convergence in norm.