ON NECESSARY AND SUFFICIENT CONDITIONS FOR VARIABLE EXPONENT HARDY INEQUALITY

AZIZ HARMAN

Abstract. In this paper we derive close necessary and sufficient conditions on the regularity of the exponent functions $p, \beta$ such that the variable exponent Hardy inequality holds

$$\left\| x^{\beta(x)-1} \int_0^x f(t) dt \right\|_{L^p(0,l)} \leq C \left\| x^{\beta(x)} f \right\|_{L^p(0,l)}$$


Keywords and phrases: Hardy operator, Hardy inequality, variable exponent, weighted inequality.

REFERENCES
