

## ORAL COMMUNICATION

## On the Extension of the Reverse Hölder Inequality for Power Functions on the Real Axis

ALINA SHALUKHINA<sup>a</sup>

<sup>a</sup> Institution: Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa

E-mail: a.shalukhina@campus.fct.unl.pt

### Abstract

We consider the class of all nonnegative on  $\mathbb{R}_+$  functions such that each of them satisfies the reverse Hölder inequality uniformly over all intervals with some constant, the minimum value of which can be regarded as the corresponding “norm” of a function. We compare this “norm” with the “norm” of the even extension of a function from  $\mathbb{R}_+$  on  $\mathbb{R}$ . In this work, an upper estimate for the ratio of such “norms” has been obtained. For the special case of power functions on  $\mathbb{R}_+$ , we give the precise value of the “norm” increase caused by even extension. This value is a lower estimate for the analogous quantity in the case of arbitrary functions. It has been shown that the obtained upper and lower estimates for the general case are asymptotically sharp.

**Keywords** reverse Hölder inequality, even extension, power function

### References

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