RESEARCH GROUP IN MATHEMATICAL INEQUALITIES AND APPLICATIONS

PROBLEM CORNER

Problem 8, (2009)

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A function $f:\mathbb{R}^{+}\to\mathbb{R}$, where $\mathbb{R}^{+}=[0,\infty)$, is said to be s-convex in the second sense if

$$f(\alpha x+\beta y)\le\alpha^{s}f(x)+\beta^{s}f(y)$$

for all $x,y\in[0,\infty)$, $\alpha,\beta\ge 0$ with $\alpha+\beta=1$ and for some fixed $s\in(0,1]$, (see [1]).

We have the following question:
If $f:I\to\mathbb{R}$, satisfies the following conditions:

(1) f is s–Hölder continuous on I with $s\in(0,1]$,
(2) Γ,

then, f is s–convex on I. Under what condition(s) Γ would the result hold?

References

[1] H. HUDZIK AND L. MALIGRANDA, Some remarks on s-convex functions, *Aequationes Math.*, **48** (1994), 100–111.