Sobolev-Lorentz capacity and its regularity in the Euclidean setting

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We study the Sobolev-Lorentz capacity and its regularity in the Euclidean setting whenever $n \geq 1$ is an integer. We extend here our previous results on the Sobolev-Lorentz capacity obtained for $n > 1$ integer. Moreover, for $n > 1$ integer we obtain a few new results concerning the $n, 1$ relative and global capacities. Specifically, we obtain sharp estimates for the $n, 1$ relative capacity of the concentric condensers $(B(0, r), B(0, 1))$ for all r in $[0, 1)$. As a consequence we obtain the exact value of the $n, 1$ capacity of a point relative to all its bounded open neighborhoods from $\mathbf{R}^n$ when $n > 1$ is an integer. We also show that this aforementioned constant is the value of the $n, 1$ global capacity of any point from $\mathbf{R}^n$, where $n > 1$ is an integer. Finally, we prove that whenever $n > 1$ is an integer, the relative and the global $p, 1$ capacities are Choquet whenever p is finite and greater than n.