4. A Remark on the Note "On some Properties of Hausdorff's Measure and the Concept of Capacity in Generalized Potentials".

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In the recent Note "On some Properties of Hausdorff's Measure and the Concept of Capacity in Generalized Potentials": Proc. **18** (1942), 617–625, we have proved among others the following fundamental:

Theorem A. *If* $C^{\Phi}(A) > 0$, *then* $m_h(A) = +\infty$, *where* $h(r) = [\Phi(r)]^{-1}$. *Namely,* $m_h(A) < +\infty$ *implies* $C^{\Phi}(A) = 0$.

Its proof depends upon our Dencity Theorem and two lemmas.

The purpose of this Note is to remark that *Lemma 1 should be omitted* without changing any essential part of the proof.

If $m_h(E) < +\infty$, then the set-function

$$\mu(e) = m_h(e \cdot E)$$

for any measurable set e (for instance, Borel set) is completely additive on Ω, which shows also that

$$\lim_{i\to\infty} e_i = e \quad \text{implies} \quad \lim_{i\to\infty} \mu(e_i) = \mu(e)$$

for any monotone sequence $\{e_i\}$ of measurable sets*).

Now

$$o_h(p, E) = \lim_{r\to+0} m_h\big(E \cdot S(p, r)\big) = m_h\big(E \cdot \lim_{r\to+0} S(p, r)\big)$$
$$= m_h(p) = 0\,,$$

whence the set of points $p \in E$ such that $o_h(p, E) > 0$ is empty.

This shows that Lemma 1 is trivial and the symbol: $o_h(p, E)$ is unnecessary.

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*) S. Saks: Theory of the Intergal, (1937), p. 8, Theorem.