Since for $x \in E$ the set

$$\left\{t \in R: |f(t) - h(t)| < \frac{\operatorname{dist}(t, E)}{1 + \operatorname{dist}(t, E)}\right\}$$

is residual at the point x, we have $q\text{-}\lim\sup_{t\to x} f(t) = q\text{-}\lim\sup_{t\to x} h(t)$ and $q\text{-}\lim\inf_{t\to x} f(t) = q\text{-}\lim\inf_{t\to x} h(t)$. Hence $C_q(f) \cap [E - (C \cup C_1)] = B$, $S_q(f) \cap [E - (C \cup C_1)] = A - C$ and $S_q^1(f) \cap [E - (C \cup C_1)] = A_1 - C_1$.

c) Assume that $x \in R - (E \cup C \cup C_1)$. The following cases may occur: The set $R - (A \cup A_1)$ is of the second category at x. Then for every $n \in N$ the set $K_n - (A \cup A_1)$ is of the second category at x,

$$q\text{-}\lim\sup_{t\to x} f(t) = h(x) + \frac{\operatorname{dist}(x, E)}{1 + \operatorname{dist}(x, E)} \quad \text{and} \quad q\text{-}\lim\inf_{t\to x} f(t) = h(x) - \frac{\operatorname{dist}(x, E)}{1 + \operatorname{dist}(x, E)}.$$

There exists a neighbourhood $U \subseteq R - E$ of x such that $U - (A \cup A_1) \in \mathscr{I}$. Since the sets $A - B$ and $A_1 - B$ do not contain sets of the second category having the Baire property, hence the sets $A - B$ and $A_1 - B$ are of the second category at x. Then

$$q\text{-}\lim\sup_{t\to x} f(t) = \lim_{t\to x}\left(h(t) + \frac{\operatorname{dist}(t, E)}{1 + \operatorname{dist}(t, E)}\right) = h(x) + \frac{\operatorname{dist}(x, E)}{1 + \operatorname{dist}(x, E)}$$

and

$$q\text{-}\lim\inf_{t\to x} f(t) = h(x) - \frac{\operatorname{dist}(x, E)}{1 + \operatorname{dist}(x, E)}.$$

Thus, if $x \in A - C$ then $x \in S_q(f) - [Q(f) \cup T_q(f)]$, if $x \in A_1 - C_1$ then $x \in S_q^1(f) - [Q(f) \cup T_q^1(f)]$ and if $x \notin A \cup A_1$ then $x \notin S_q(f) \cup S_q^1(f)$.

Therefore f satisfies the condition (ii).

References

[1] *Z. Grande:* Quelques remarques sur la semicontinuité supérieure. Fund. Math. CXXV. 1 (1985), 1—13.

[2] *K. Kuratowski:* Topologie I. PWN, Waszawa 1958.

[3] *J. Shoenfield:* Martin's Axiom, Am. Math. Monthly 82 (1975), 610—617.

[4] *W. Sierpiński:* Sur une propriété des ensembles F_σ linéaires. Fund. Math. 14 (1929), 216—220.

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