Let $\varepsilon > 0$, $t \in [\alpha, \beta]$. Then there exists a positive integer i with the following property: if $y \in B(x, i^{-1})$ then

$$S(t, y) \subset \Omega(S(t, x), \varepsilon) . \tag{7}$$

On the other hand, as the set V is at most countable and all $v_j \in V$ are solutions of (6), there exists a set $D \subset [\alpha, \beta]$ with $m(D) = \beta - \alpha$ such that

$$\dot{v}_j(t) \in S(t, v_j(t)) \quad \text{for} \quad t \in D \cap J_{v_j}, \quad j = 1, 2, \ldots . \tag{8}$$

Let $x \in \bar{B}(0, 1)$, $t \in D \cap \Lambda$. Then we have in virtue of the definition of Q_i (see (2))

$$Q_i(t, x) = \overline{\text{conv}} \{\dot{v}_p(t) \mid v_p(t) \in \bar{B}(x, i^{-1})\} \subset \overline{\text{conv}} \bigcup_p S(t, v_p(t)) \tag{9}$$

where the union is taken over all p such that

$$v_p(t) \in \bar{B}(x, i^{-1}) .$$

Consequently, (7) and (9) together imply

$$Q(t, x) = \bigcap_{i=1}^{\infty} Q_i(t, x) \subset \bar{\Omega}(S(t, x), \varepsilon) .$$

The number $\varepsilon > 0$ has been arbitrary, hence the last inclusion holds for all $\varepsilon > 0$. This implies immediately $Q(t, x) \subset S(t, x)$ for all $t \subset D \cap \Lambda$, i.e. for almost all $t \in [\alpha, \beta]$ which completes the proof of the theorem.

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