is obvious. Hence $7° \to 8°$. Also, the implication $8° \to 1°$ is immediate. It remains to prove the implication $2° \to 7°$.

Suppose that 2° is satisfied and let us prove the following fact. If $x_0 \in U$ and if V is a $\sigma(E, A'E_2')$ neighbourhood of x_0 then there exists a $\sigma(E, T'E_3')$ neighbourhood W of x_0 such that $W \cap U \subset V$. First of all, there exist $f_1, \ldots, f_n \in E_2'$ such that $|\langle x - x_0, A'f_j\rangle| < 1$ for $j = 1, 2, \ldots, n$ implies $x \in V$. According to 2°, each $A'f_j$ has a decomposition of the form

$$A'f_j = T'g_j + h_j$$

where $g_j \in E_3'$ and $h_j \in \frac{1}{4}U^0$. Denote by W the set

$$W = \{x; |\langle x - x_0, T'g_j\rangle| < \tfrac{1}{2}\} .$$

If $x \in W \cap U$, we have, for each j

$$|\langle x - x_0, A'f_j| \leqq |\langle x - x_0, T'g_j\rangle| + |\langle x - x_0, h_j\rangle| < 1$$

so that $x \in V$. The proof is complete.

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