It holds

$$\left|\int_0^t \frac{d\tau}{\sqrt{(\tau)}\ln\tau}\right| \leqq \frac{1}{|ln\ t|}\int_0^t \frac{d\tau}{\sqrt{\tau}} = 2\frac{\sqrt{t}}{|ln\ t|}$$

and hence

$$(10)\qquad |I_1| = \left|\int_a^{(1/2)(\pi t)^{-1/2}} dc \int_0^t \frac{d\tau}{\sqrt{(\tau)}\ln\tau}\right| \leqq \int_a^{(1/2)(\pi t)^{-1/2}} \frac{2\sqrt{t}}{|ln\ t|}\, dc =$$

$$= \frac{1}{\sqrt{(\pi)}\,|\ln t|} - \frac{2a\sqrt{t}}{|\ln t|} \to 0 \quad \text{for} \quad t \to 0+ .$$

We obtain from (7) that

$$(11)\qquad |I_2| \leqq \frac{1}{2\pi|\ln t|\sqrt{t}}\int_{1/2(\pi t)^{-1/2}}^{\infty} \frac{dc}{c^2} = \frac{1}{2\pi|\ln t|\sqrt{t}}\, 2\sqrt{(\pi t)} \to 0$$

for $t \to 0+$. (9) follows from (10) and (11). Since $f_a(t) \to 0$ monotonically for $a \to +\infty$ and since the functions $f_a$ are continuous, it is seen from Dini's theorem that $f_a(t) \to 0$ for $a \to +\infty$ uniformly on the interval $\langle 0, e^{-1}\rangle$. Thus we see that the condition (3″) is fulfilled and the potential $G_\mu$ (where $\mu = \delta_0 \otimes \lambda$) is uniformly continuous on $R^2$.

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*Author's address:* 166 27 Praha 6 - Dejvice, Suchbátarova 2 (katedra matematiky FEL ČVUT).