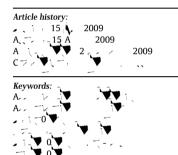


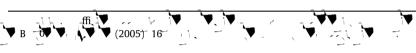


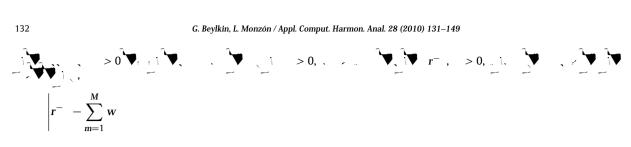
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article info

abstract







. **1.** Let us assume that (4) holds. For any > 0 and $t_0 \in \mathbb{R}$, we have

$$\left| \int_{\mathbb{R}} f(t) dt - h \sum_{\mathbf{n} \in \mathbb{Z}} f(t_0 + \mathbf{n} \mathbf{h}) \right| \leq$$
(6)

provided that the Fourier transform of f satisfies

$$\left|\hat{f}(\cdot)\right| \leqslant c_1 e^{-q|\cdot|},\tag{7}$$

for some positive constants c_1 , q and step size $h \leq q/$ ($2c_1^{-1} + 1$) or, alternatively,

$$|\hat{f}()| \leq \frac{c_2}{||^q}, \quad \text{for} || \geq R,$$
(8)

for some positive constants c_2 , R, q and step size $h \leq \sqrt{(1/R)^{1/q}}$, $(2c_2 (q))^{-1/q}$, where (q) is the Riemann Zeta function.

$$\sum_{n \neq 0} |\hat{f}(\frac{n}{h})| \leq \sqrt{2}$$
 (7), ...,
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$$\sum_{n \neq 0} |\hat{f}(\frac{n}{h})| \leq \sqrt{2}$$

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$$S_{\infty}(\mathbf{r}) = \frac{h}{(\)} \sum_{n \in \mathbb{Z}} e^{-(t_0 + nh)} e^{-e^{t_0 + nh} \mathbf{r}}.$$
(13)
$$\sum_{n \neq 0} \frac{|(\ (+2 \ i\frac{n}{h})|}{(\)} < .$$
(14)

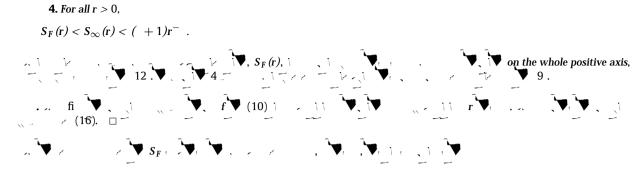
3. Given > 0 and $0 < \leq 1$, for any step size h such that

$$h \leq \frac{2}{3 + (1)^{-1} + (1)^{-1}}, \tag{15}$$

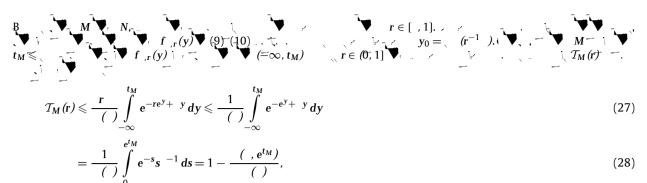
and any $t_0 \in \mathbb{R}$ we have

$$\frac{|\mathbf{r}^{-} - \mathbf{S}_{\infty}(\mathbf{r})|}{\mathbf{r}^{-}} \leqslant \quad \text{, for all } \mathbf{r} > 0, \tag{16}$$

where S_{∞} is given in (13).



5. For any >0, >0, and 1, /_7 1, 9.7304 0 0 9.7304 303, ou8309094 0 TD 0.2518 f4p -33.1058 -2.866 TD 0.0004 0 9.



$$(\cdot, \mathbf{x}) = \int_{\mathbf{x}}^{\infty} e^{-s} s^{-1} ds$$

$$(\cdot, \mathbf{x}) = \int_{\mathbf{x}}^{\infty} e^{-s} s^{-1} ds$$

$$(29)$$

$$T_{N}(t) \leq \frac{\mathbf{r}}{(\cdot)} \int_{t_{N}}^{\infty} e^{-re^{y} + y} dy = \frac{1}{(\cdot)} \int_{re^{t_{N}}}^{\infty} e^{-s} s^{-1} ds,$$

$$(T^{N}(t) \leq \frac{(\cdot, e^{t_{N}})}{(\cdot)}$$

$$T^{N}(t) \leq \frac{(\cdot, e^{t_{N}})}{(\cdot)}$$

$$(30)$$

$$(31)$$

$$\frac{(\ ,\ e^{t}\)}{(\)} = .$$

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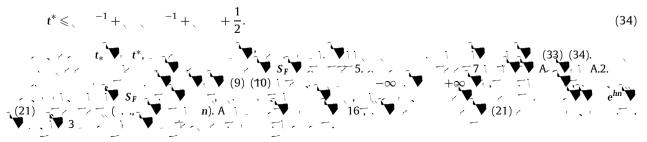
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7. For all > 0, > 0 and $1/e \ge > 0$, the solution t_* of (31) does not depend on and satisfies

$$t_* \ge \underbrace{(1+)}_{+} = \frac{1}{2} + \underbrace{(1+)}_{-}^{1}.$$

$$(33)$$

The solution t^* of (32) has a weak dependence on and satisfies



(41)

8. For any > 0, and > 0, there exist a step size h and a positive integer M such that

$$\left| e^{-xy} - G_e(x, y) \right| \leqslant \ , \quad \text{for } xy \geqslant \ ,$$

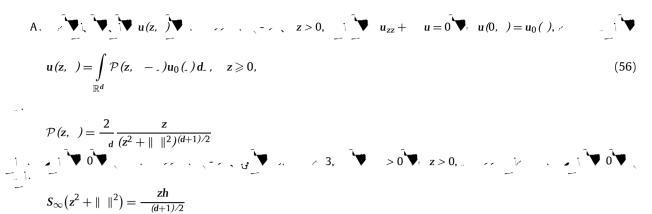
where

$$G_{e}(x, y) = \frac{hx}{2\sqrt{-}} \sum_{j=0}^{M} e^{-x^{2}}$$

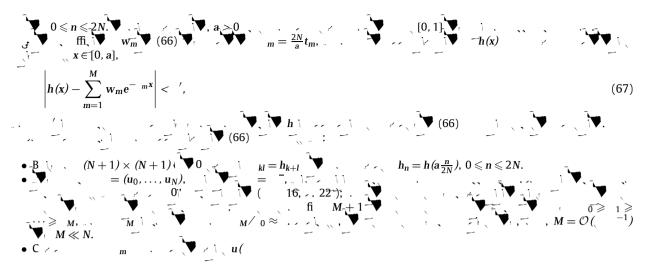


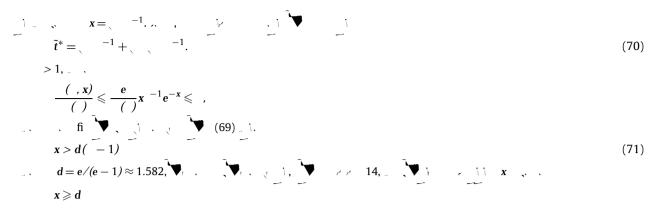
be an approximation of the kernel by Gaussians valid for $\leq r \leq 1$. Then, for any bounded, compactly supported function f in D and $x \in D$, we have

$$\left| \int_{B_1} \|\cdot\|^{-1} f(+.) d_{-1} - \int_{B_1} G_F(\|y\|) f(+.) d_{-1} \right| \leq (+(2+))^{d-1} \|f\|_{\infty}.$$

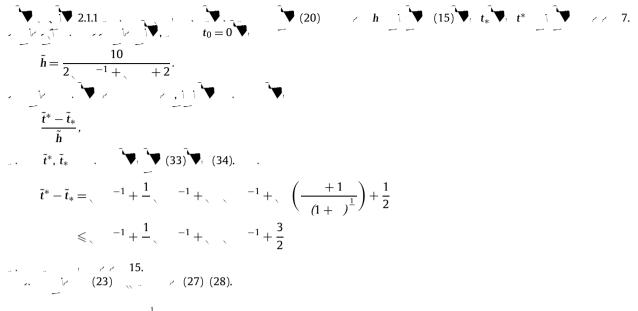


G. Beylkin, L. Monzón / Appl. Comput. Harmon. Anal. 28 (2010) 131-149





A.3. Proof of Theorem 5



15. Let $g(x) = \frac{(x+1)^{\frac{1}{x}}}{x+1}$ for x > 0

