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[illegible]

[illegible]

I Introduction

[illegible]

n e e dd e e o e of o n e c on of f nc on n e e e e e e con de co n 2 n e e e nce e od c of o f nc on y e en $\frac{1}{4}$ 2 2

e e f o d o o d e. e co n e e n on of e od c of e f nc on o n nd n e o e f o e c on ne c en o e. e co n e coe c en

$$c^{j;j';m}_{k;k';l} \quad \int_{-\infty}^{+\infty} \quad {}^{j}_{k} \quad {}^{j'}_{k'} \quad {}^{m}_{l} \quad d \; ,$$

e e ${}^{j}_{k}$ $-j=2$ $-j$ e e f nc on e co n $c^{j;j';m}_{k;k';l}$ doe no e en o e e n e of e nonze o of coe c en e nd o e o n e n e of o e on o co e 2 o o on o N_s^3 e e N_s e n e of n c n coe c en n e e e en on of

n n e of c on e f nc on of n e e e f nc on e n o o o y f e oc on e n e of n c n e e coe c en of f nc on one e e o N_s o o on o o

II Multiresolution algorithm for evaluating u

nco n n c on n sc s

Le s con s de e o ec on s of $2\ L^2(R)$ on s ce s V_j

$$j \quad j, \quad j \in V_j,$$

e e $\{V_j\}_{j\in Z}$ s e o on n y s s of $L^2(R)$ n o de o nco e e n e c on e een s e s e e e s co c s e s

$$^2_0 \quad ^2_n \sum_{j=1}^{j=n} \left[\quad_{j-1} \quad ^2 \quad _j \quad ^2 \right] \quad \sum_{j=1}^{j=n} \quad_{j-1} \quad j \quad _{j-1} \quad j$$

s n $_{j-1}$ j j e o n

$$^2_0 \quad ^2_n \sum_{j=1}^{j=n} \quad j \quad j \quad j, \tag{3}$$

o

$$^2_0 \quad \sum_{j=1}^{j=n} \quad j \quad j$$

o n u^2 n s s

Le s s y con s de n n e e of n e s s e e e fo o n e c e on s

$$
\begin{aligned}
&{}^{j}_{k} \quad {}^{2} \quad -j=2 \quad {}^{j}_{k}, \\
&{}^{j}_{k} \quad {}^{2} \quad -j=2 \quad {}^{j}_{k}, \\
&{}^{j}_{k} \quad {}^{j}_{k} \quad -j=2 \quad {}^{j}_{k},
\end{aligned}
$$

e e ${}^{j}_{k}$ $-j=2$ $-j$ ${}^{j}_{k}$ $-j=2$ $-j$ s e c e s c f nc on of e n e , nd s e f nc on nd n $_0$ n o e s s

$$
{}_0 \quad \sum_{j=1}^{j=n} \sum_{k\in Z} d^{j}_{k} \; {}^{j}_{k} \quad \sum_{k\in Z} {}^{n}_{k} \; {}^{n}_{k},
$$

nd s n

e co e e d e ence nd e e d_k^{j+1} nd $_k^{j+1}$ e en dd $_k^{j+1}$ o $_k^{j+1}$ efo e e nd n e cco d n o e fo o n y d e e

$$\{\ _k^1\} \quad ! \quad \{\ _k^2\} \quad ! \quad \{\ _k^2\} \quad \{\ _k^2\} \quad ! \quad \{\ _k^3\} \quad ! \quad \{\ _k^3\} \quad \{\ _k^3\}$$
$$\& \qquad \& \qquad \&$$
$$\{d_k^2\} \quad ! \quad \{d_k^2\} \quad \{d_k^2\} \qquad \{d_k^3\} \quad ! \quad \{d_k^3\} \quad \{d_k^3\}$$

e fo fo e n e d e ence nd e e d_k^{j+1} nd $_k^{j+1}$ y e fo nd n A e e co e d_k^j , n e d_k^1 nd $_k^n$ nd o n

$$^2_0 \quad \sum_{j=1}^{j=n} \sum_{k \in Z} d_k^j \quad d_k^j \quad _k^j \qquad \sum_{k \in Z} \ _k^n \quad _k^n \quad _k^n \quad _k^n$$

ce en e of o e on fo co n e e n on of $^2_0$ o o on o en e of n c n coe c en d_k^j n e e e e n on of $_0$ n e o c e f e o n f nc on e e en ed y ec o of e en N en en e of o e on o o on o N f e o n f nc on e e en ed y o $_2N$ n c n coe c en en en e of o e on o co e o o on o o $_2N$ e o n e e y ene ze o e d en on c e

o n u^2 n s s

e no e n o e ene c of e e nd de e n o o e nd n o e ee n e n e c of e e od c on en e o e n o e ne e nd e de e o n e c en o o nde o e e co c y o ed e e o o con de on e no e c ed o e e e deno e e n f nc on y nd e e e y e e e en en y $_k^j$ $-j/2$ $-j$, 2 Z ee e con de e e o on n y oc ed

n o de o e nde e n n o e ee e e ed o con de e n e of e od c of e f nc on fo e e

$$M^{j;j'}_{\mathrm{www}} \quad ' \quad _l \qquad \int_{-\infty}^{+\infty} \ _k^j \quad _{k'}^j \quad _l^{j'} \ d \ ,$$

e e $'$ c e e coe c en $M^{j;j'}_{\mathrm{www}}$ $'$ e den c y ze o fo j $'j$ $_0$ e e $_0$ de end on e o e of e of e f nc on en e of nece y coe c en y e ed ced f e y o e n

$$M^{j;j'}_{\mathrm{www}} \quad ' \quad _l \qquad {}^{-j'/2} \int_{-\infty}^{+\infty} \ _0^{j-j'} \quad _{k-k'}^{j-j'} \quad _{2^{j-j'}k-l}^{0} \ d \ ,$$

[illegible] o [illegible] e [illegible] e o de [illegible] e nd [illegible] e [illegible] y [illegible] e [illegible] of [illegible] ne e [illegible] on [illegible] o [illegible] nd M_0 [illegible] e d oc e d [illegible] e en [illegible] o [illegible] o e e [illegible] n [illegible] e ne [illegible] ec [illegible] on

Le [illegible] no e [illegible] n [illegible] e e [illegible] on [illegible] o con [illegible] de [illegible] n [illegible] nd [illegible] n [illegible] n [illegible] en [illegible] e [illegible] e [illegible] oced e of [illegible] n [illegible] e [illegible] o ec [illegible] on [illegible] j [illegible] j [illegible] n o [illegible] ne [illegible] ce [illegible] cco [illegible] ed y [illegible] e [illegible] y [illegible] d econ [illegible] c [illegible] on o [illegible] ee e [illegible] Le [illegible] e [illegible] on y [illegible] n [illegible] e of [illegible] coe c [illegible] en [illegible] of [illegible] j e o e [illegible] e [illegible] e [illegible] o d of cc cy e no e [illegible] ee e [illegible] o [illegible] on y [illegible] o [illegible] coe c [illegible] en [illegible] of j [illegible] con [illegible] e o [illegible] e [illegible] od c [illegible] j [illegible] j [illegible] o e [illegible] e [illegible] e [illegible] o d need o e e [illegible] n [illegible] c one [illegible] y con [illegible] de [illegible] e [illegible] nc [illegible] on [illegible] n se d of [illegible] s s c en o conside e n

$$\mathbf{V}_0 \quad \mathbf{V}_0 \; ! \; \mathbf{V}_0$$

se y o see fo $\mathbf{2}\ \mathbf{V}_0$

$$\sum_{\mathbf{k}} \mathbf{k}$$

e es of n e e on s y e d d s d s

References

Bey n ee M e o on n y nd N c A o A
dr f of N A Lec re No e

Bey n n e e en on of o e o n of co c y o ed
e e *AM N er An* o e

Bey n o n nd o n e e n fo nd n c
o *Co P re nd App M* Y e n e y
e n c e o YAL A

M Bony n e c on de n e o e e on de ee e e A e
non ne e e e d n d ee N e d d on d o