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(Spatial wavelet)

(Aperture)

(common shot gather)

(Migration noise)

Regular)

(Random coarse sampling)

(Regular dense sampling)

(coarse sampling

MATLAB

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Vertical)

(horizontal resolution)

(resolution

(Yilmaz 2001)

$c(x)$

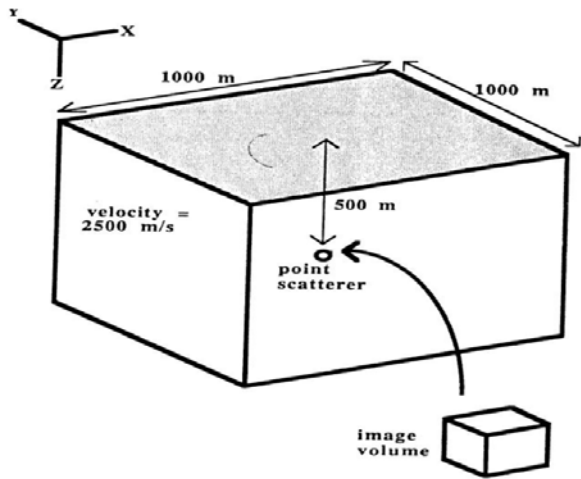
$v(x)$

(Bleistein *et al.* 2001)

$$\frac{1}{v^2(x)} = \frac{1}{c^2(x)} (1 + \alpha(x)) \quad ()$$

$\alpha(x)$

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$$\alpha(x)$$

(1986) Cohen *et al.*

$$\alpha(x)$$

$$k = f \nabla_x \varphi(x, \xi) \quad ()$$

k f

$$\varphi(x, \xi)$$

$$\varphi(x, \xi) = \tau(x, x_s) + \tau(x, x_r) = \tau_s + \tau_r \quad ()$$

$$y \quad \tau(x, y)$$

k x

$$k = k_s + k_r \quad ()$$

$$k_r \quad k_s ()$$

τ_s

x

x τ_r

$$k_r \quad k_s$$

(Vermeer 1999)

$$()$$

k

(Vermeer 1998)

$$()$$

(1985) Beylkin

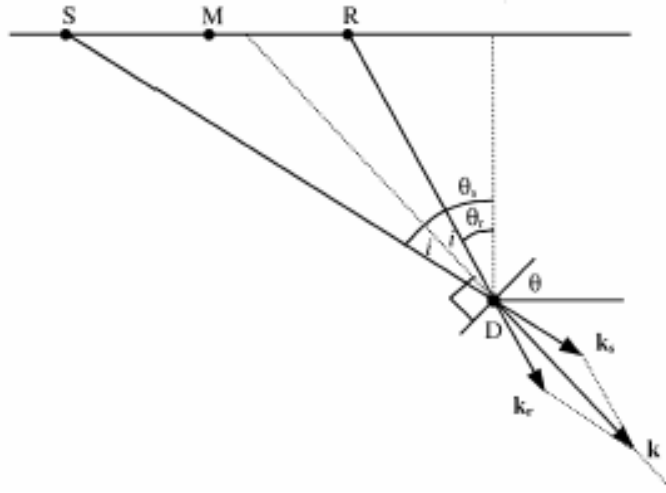
$$\alpha(x) \quad (1986) \text{Cohen } et \text{ al.}$$

(Von Seggern 1994)

$$\alpha(x) = \frac{c^2(x)}{8} \iint d\xi_1 d\xi_2 \frac{h \cdot p[s, r, t = \tau(s, r)]}{a(s, r)} \quad ()$$

R S D
 RD SD k
 $\theta = (\theta_s + \theta_r)/2$
 $k_i = (\theta_s - \theta_r)/2$
 c(x) α
 $\xi_2 \quad \xi_1$ p
 $\tau ()$ x h
 a ()
 $a(s, r) = A(s, x) A(x, r) \quad ()$
 $A(x, r) \quad A(s, x)$
 x x
 x h

$$h(x, \xi) = \begin{vmatrix} \frac{\partial \varphi}{\partial x_1} & \frac{\partial \varphi}{\partial x_2} & \frac{\partial \varphi}{\partial x_3} \\ \frac{\partial^2 \varphi}{\partial x_1 \partial \xi_1} & \frac{\partial^2 \varphi}{\partial x_2 \partial \xi_1} & \frac{\partial^2 \varphi}{\partial x_3 \partial \xi_1} \\ \frac{\partial^2 \varphi}{\partial x_1 \partial \xi_2} & \frac{\partial^2 \varphi}{\partial x_2 \partial \xi_2} & \frac{\partial^2 \varphi}{\partial x_3 \partial \xi_2} \end{vmatrix} \quad (1)$$



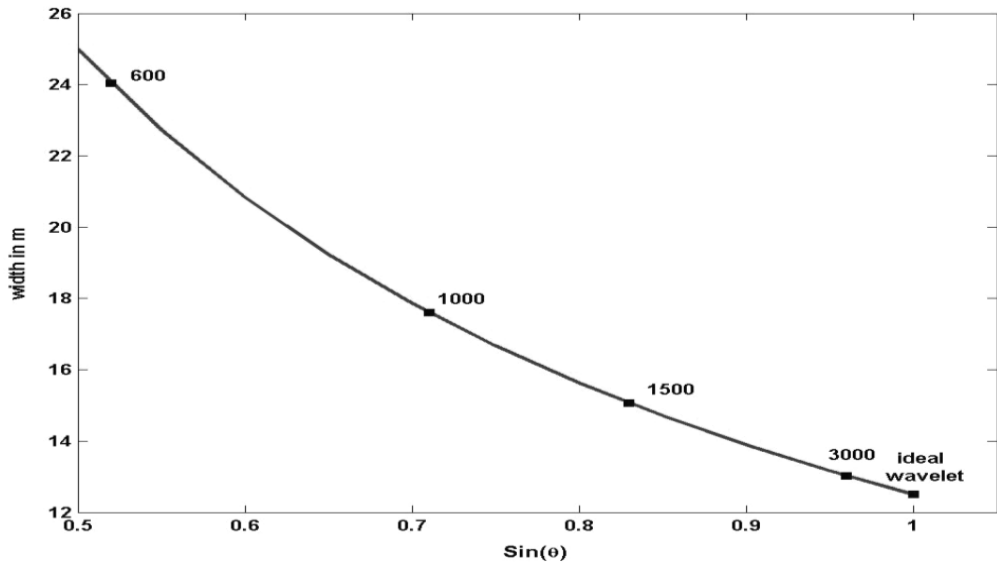
$$f_p \theta_{x, \max} \omega \theta_r \theta_s \quad (2)$$

$$\omega = \frac{v}{4 f_p \sin \theta_{x, \max}} \quad (3)$$

(Vermeer 1999)

$$\omega = \frac{v}{2 f_p (\sin \theta_s + \sin \theta_r)} \quad (4)$$

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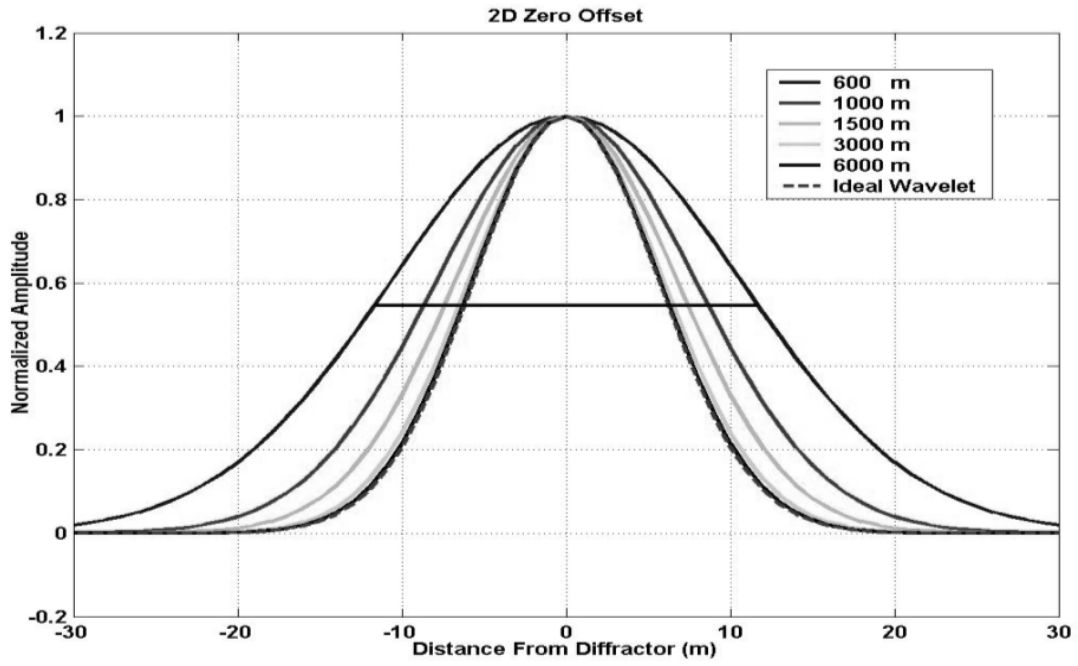
()

x

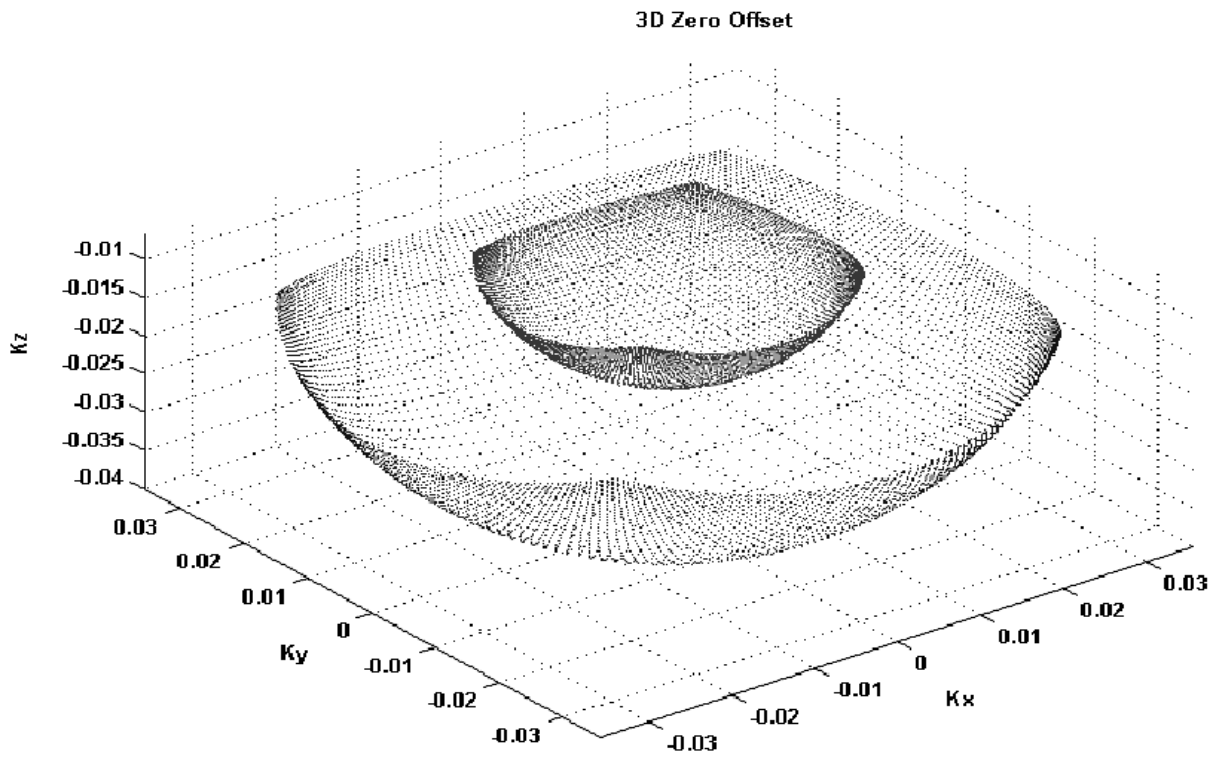
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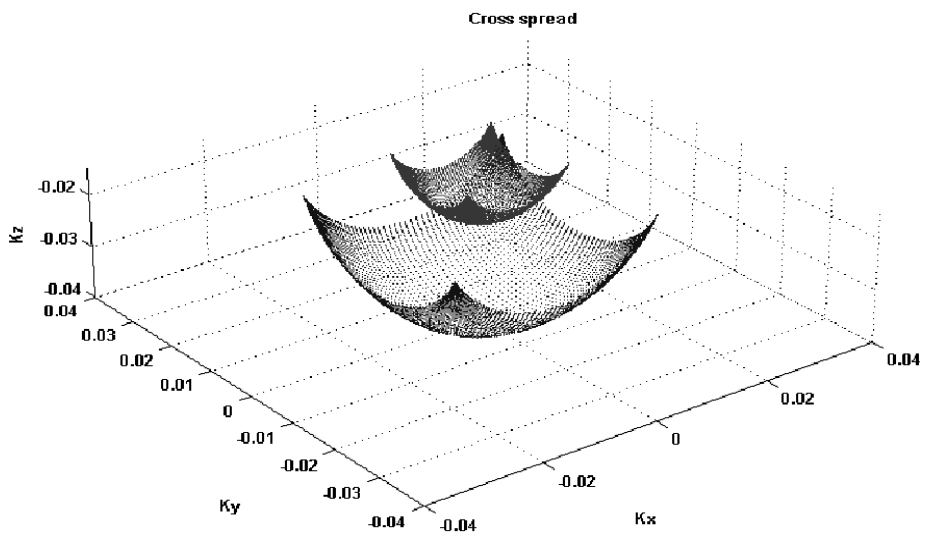
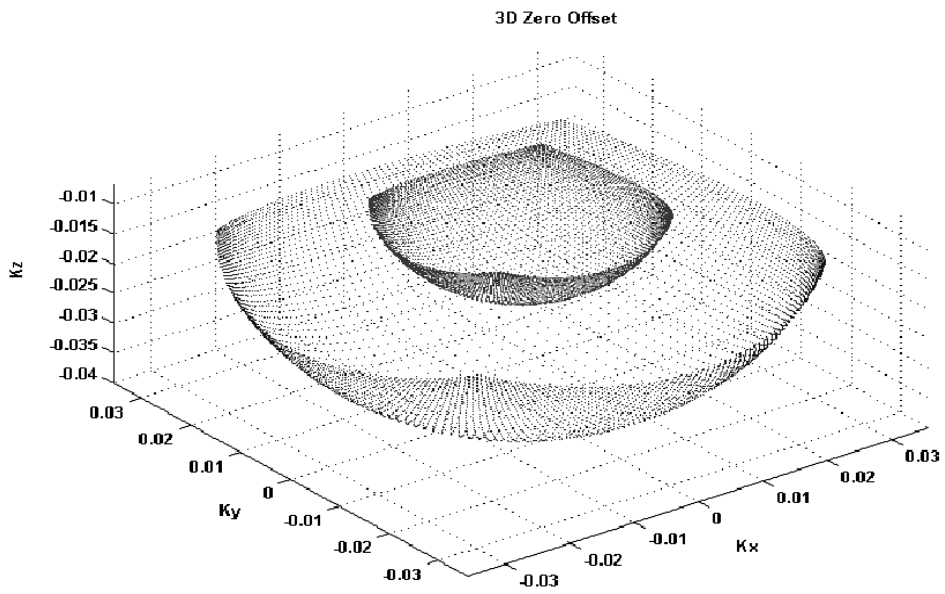
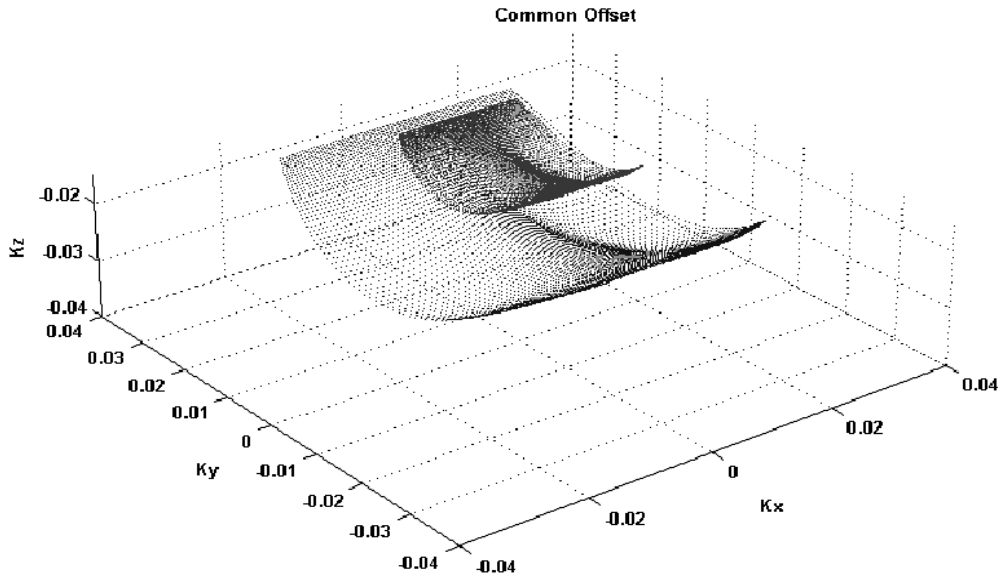
(1985)Safar

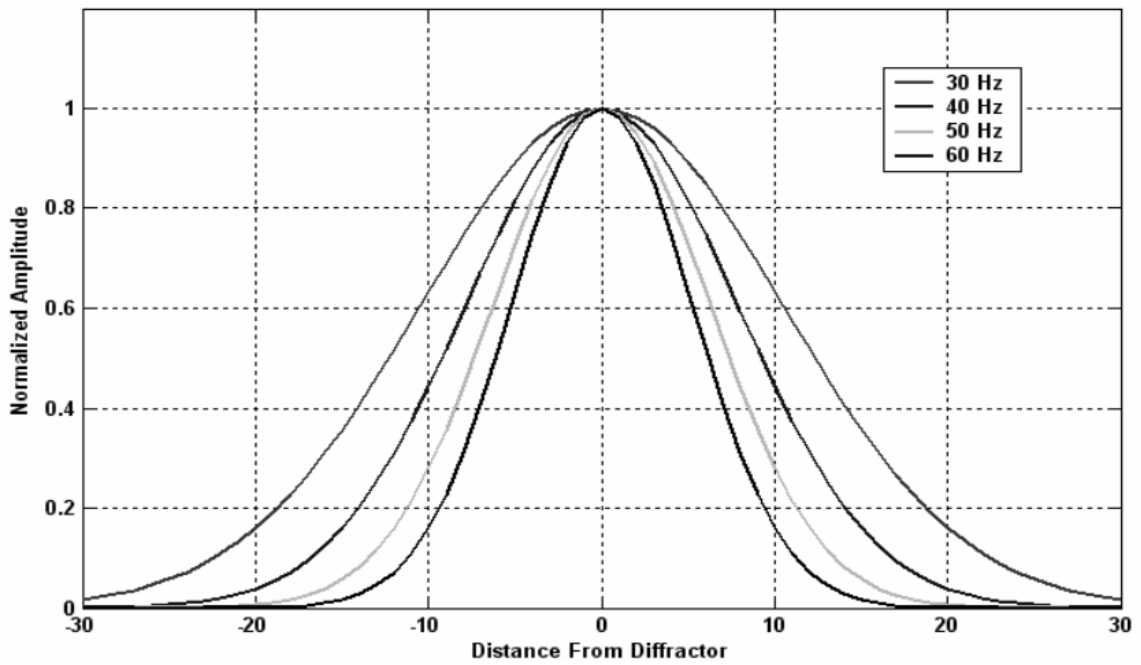
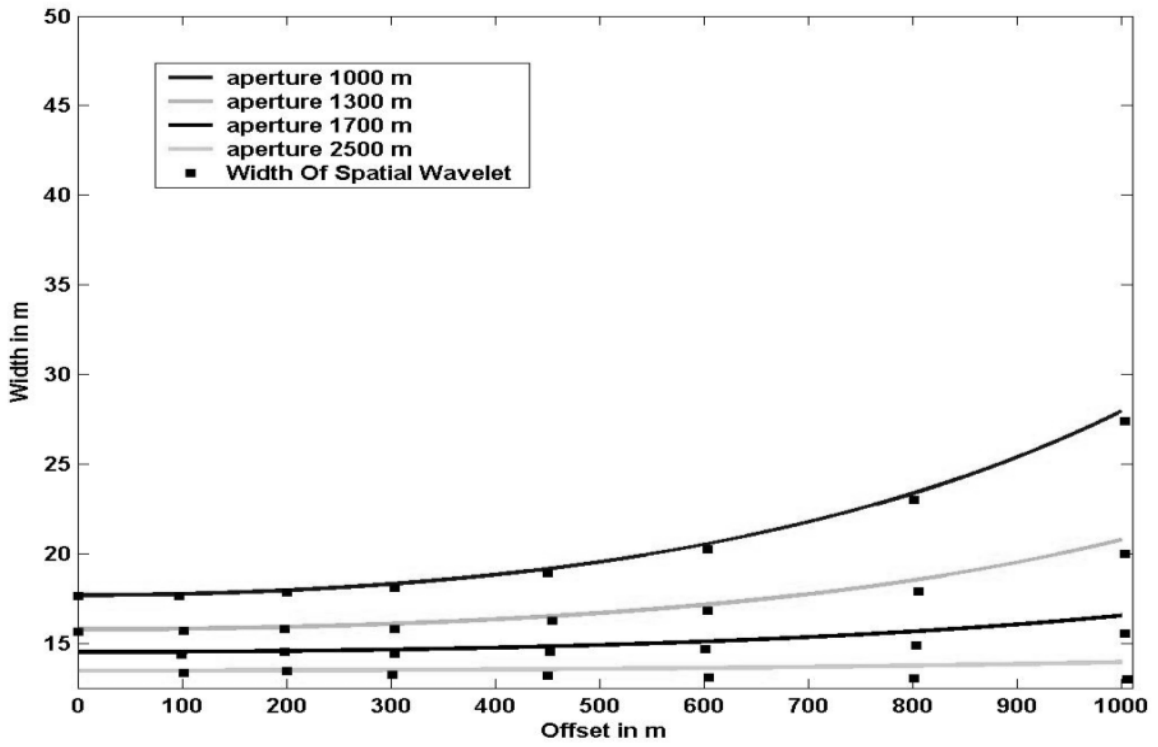


θ $\sin \theta$
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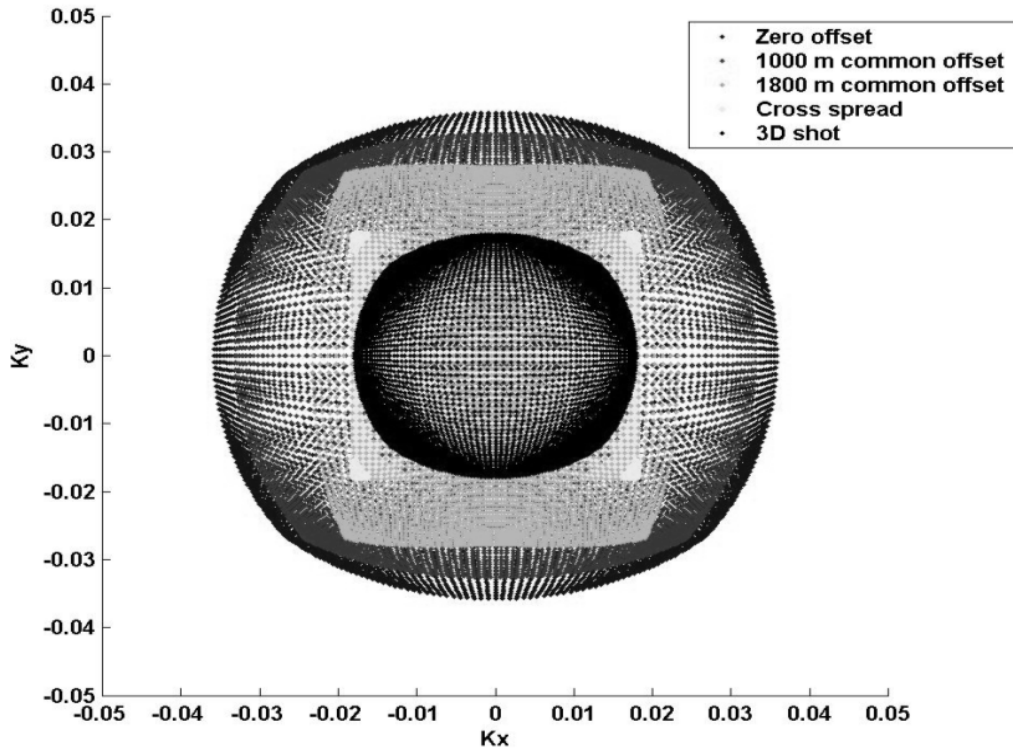


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(Yilmaz 2001)

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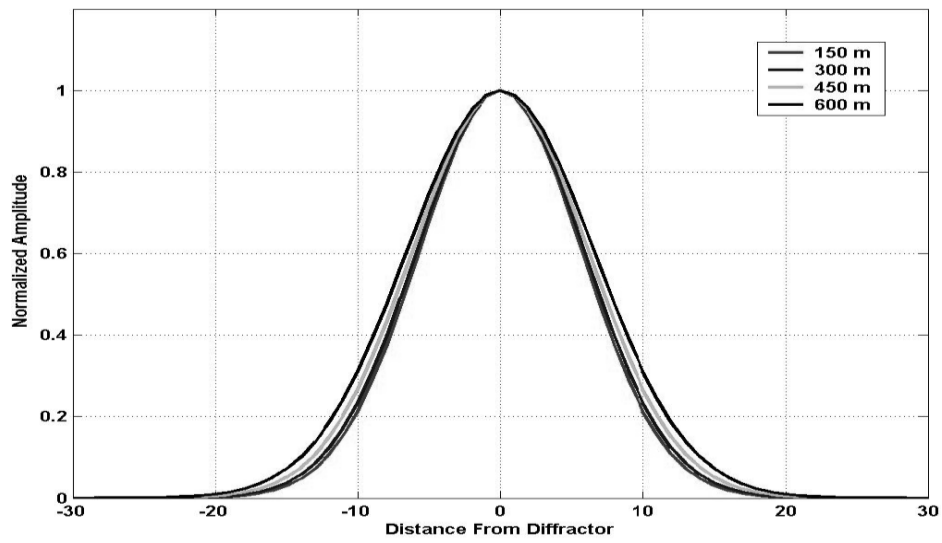
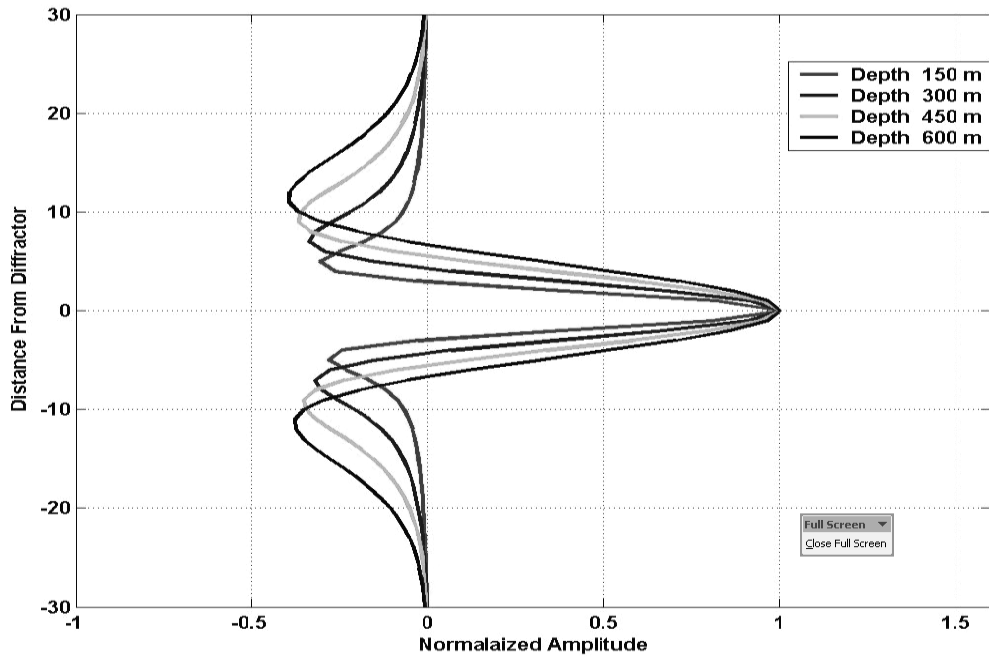
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$$\xi \quad \varphi(x, \xi) - \varphi(d, \xi) \quad)$$

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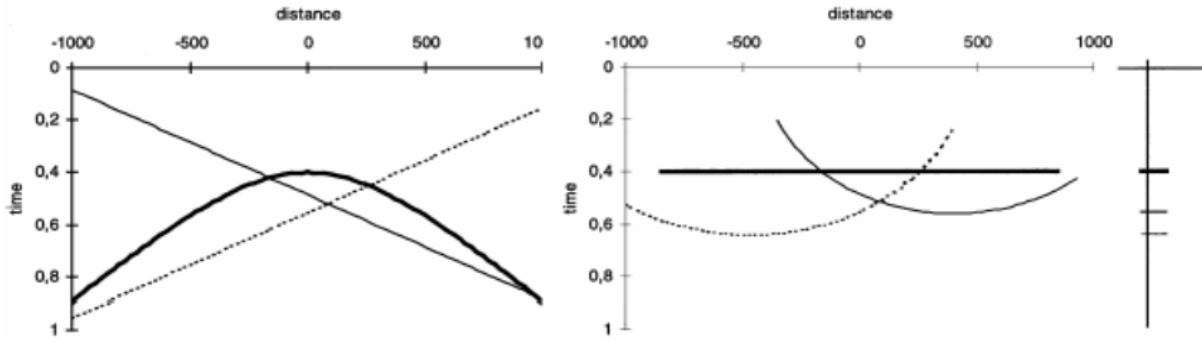
(

(Vermeer 1999)

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$k=0$

$k = 1/d$

$k = 1/(2d)$

dB

$k=0$

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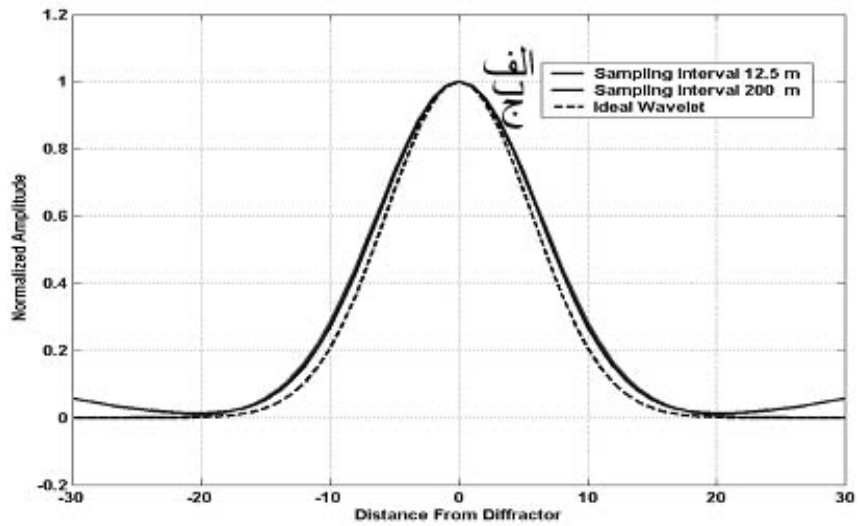
$k = 1/d$

d

$k_N = 1/(2d)$

$k = 1/d$

(d)

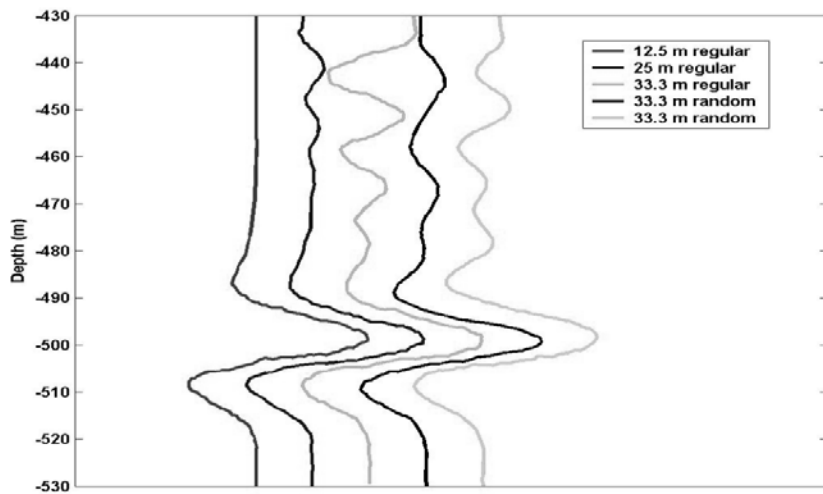


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$x = 0$



)

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($k = 0.02$)

)

($k = 0.04$)

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rejection

N

.(Vermeer 1998)

" "

(1985)

N

(temporal coordinate)

(spatial coordinate)

N

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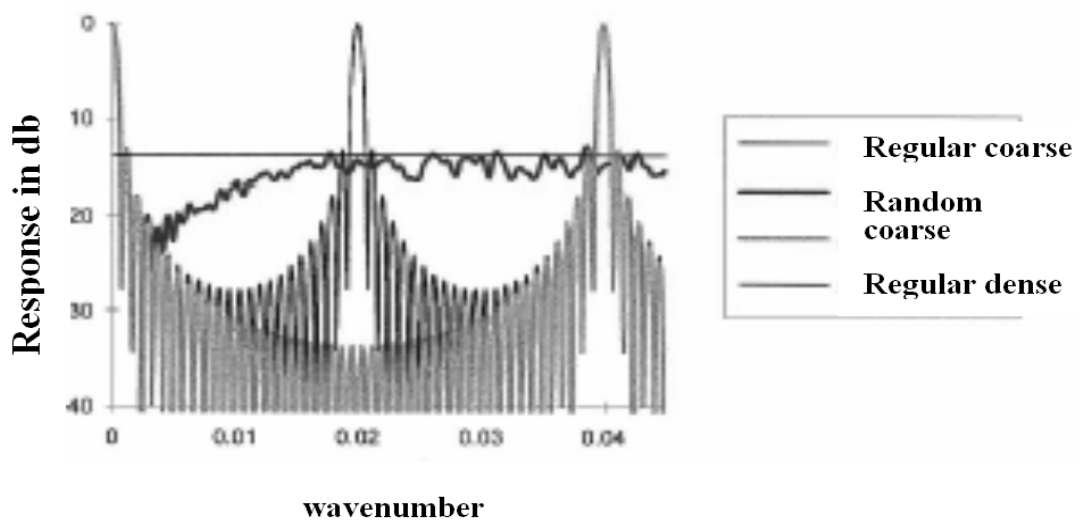
N

(

N

N

(undersampled)



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(1996) Markley *et al.*

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(1999) Vermeer

(Kallweit & Wood 1982)

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