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$$E = \frac{1}{2\pi} \rho g \int_{-\infty}^{\infty} A^2(\omega) d\omega$$

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$$\int_{-\infty}^{\infty} [\eta(t)]^2 dt = \frac{1}{\pi} \int_{-\infty}^{\infty} [A(\omega)]^2 d\omega$$

()

$$[\bar{\eta}(t)]^2$$

()

$$[\bar{\eta}(t)]^2 = \frac{1}{T_s} \int_0^{T_s} [\eta(t)]^2 dt$$

()

$$\bar{E} = \frac{1}{2\pi} \rho g \int_{-\infty}^{\infty} \frac{[A(\omega)]^2}{T_s} d\omega$$

()

$$S(\omega) = \frac{[A(\omega)]^2}{\pi T_s}$$

()

$$\bar{E} = \frac{1}{2} \rho g \int_{-\infty}^{\infty} S(\omega) d\omega$$

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$$\eta(t) = \frac{1}{\pi} \int_{-\infty}^{\infty} [a(\omega) \cos \omega t + b(\omega) \sin \omega t] d\omega$$

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$$a(\omega) = \int_{-\infty}^{\infty} \eta(t) \cos \omega t dt$$

()

$$b(\omega) = \int_{-\infty}^{\infty} \eta(t) \sin \omega t dt$$

()

$$T_s$$

$$T_s$$

[]

H_{\max}

$$E = \frac{1}{2} \rho g \int_{-\infty}^{\infty} [\eta(t)]^2 dt$$

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$$S(\omega) \quad S(f)$$

() ()

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$$m_{n_f} = \int_0^{\infty} f^n S(f) df$$

()

()

f

$$E = \frac{1}{2\pi} \rho g \int_{-\infty}^{\infty} [a^2(\omega) + b^2(\omega)] d\omega$$

()

$$(2\pi)^n \omega$$

η

$$m_{n\omega} = \int_0^{\infty} \omega^n S(\omega) d\omega$$

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$(-\pi, \pi)$

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$$p(\eta) = \frac{1}{\sqrt{2\pi} \delta_\eta} \exp\left[-\frac{\eta^2}{2\delta_\eta^2}\right]$$

()

$$\bar{T}_z = \frac{T_s}{N_z}$$

()

()

δ_η

$$\bar{T}_c = \frac{T_s}{N_c}$$

()

$$\delta_\eta = \sqrt{m_0}$$

()

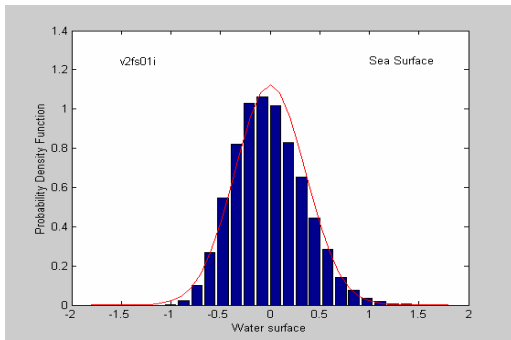
()

N_z

\bar{T}_z

\bar{T}_c

N_c



$$T_{0,1} = \frac{m_0}{m_1}$$

()

$$T_{0,2} = \sqrt{\frac{m_0}{m_1}}$$

()

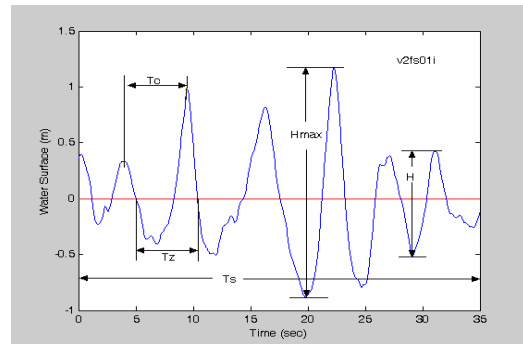
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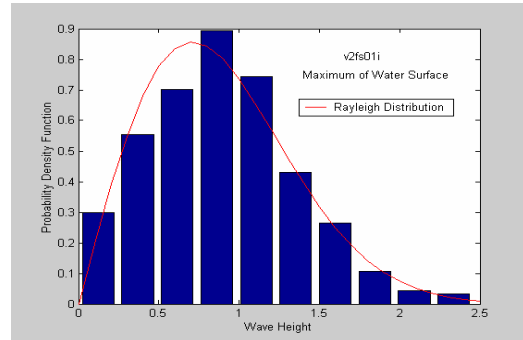
$$p(a) = \frac{a}{m_0} \exp\left[-\frac{a^2}{2m_0}\right]$$

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$$p(a) = 1 - \exp\left[-\frac{a^2}{2m_0}\right]$$

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($H = 2a$)

$$p(H) = \frac{2H}{H_{rms}^2} \exp\left[-\frac{H^2}{H_{rms}^2}\right]$$

()

$$P(H) = 1 - \exp\left[-\frac{H^2}{H_{rms}^2}\right]$$

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$$\tau = \frac{T - T_{0.1}}{vT_{0.1}}$$

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v T

$$v = \frac{m_0 m_2 - m_1^2}{m_1^2}$$

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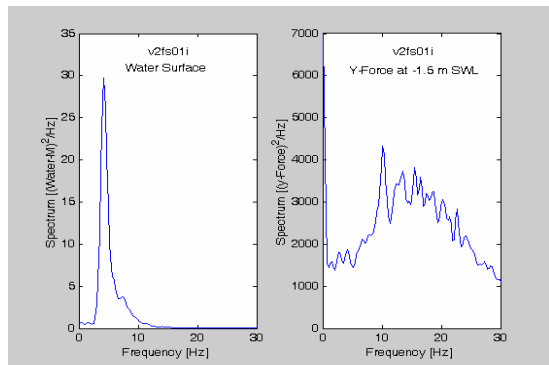
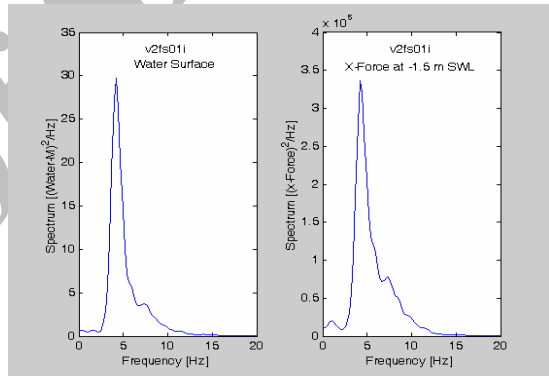
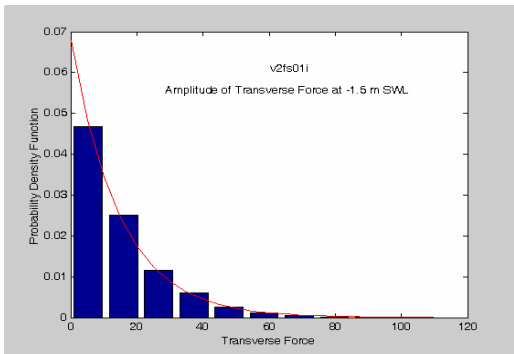
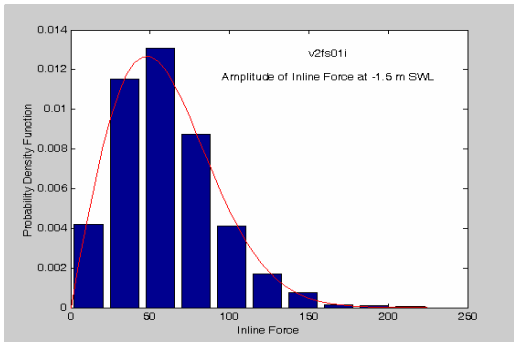
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$$p(\tau) = \frac{1}{2(1 + \tau^2)^{3/2}}$$

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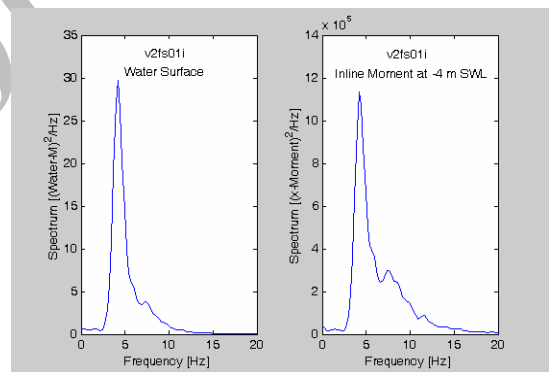
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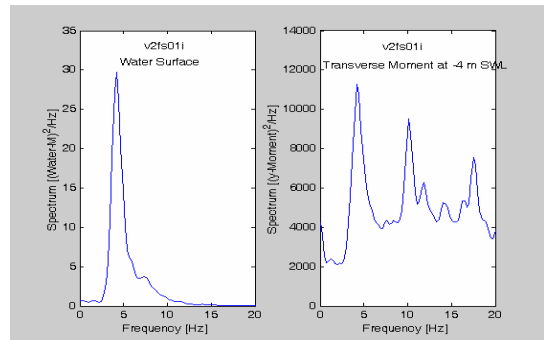
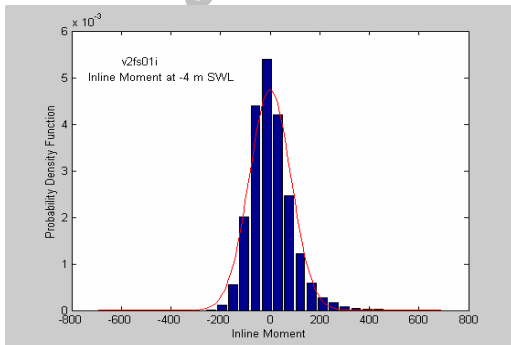
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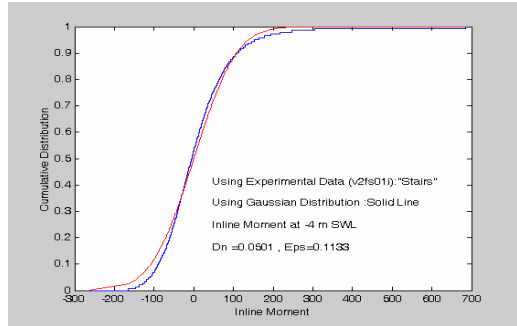
($Dn = 0.0793 < \varepsilon = 0.1133$, ok)

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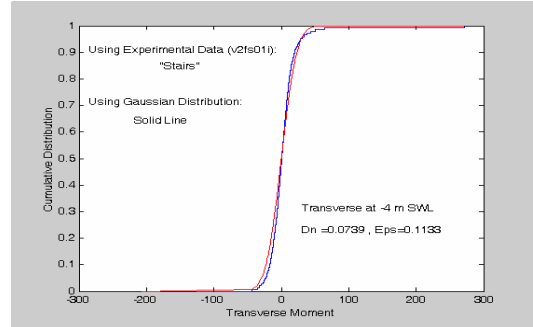
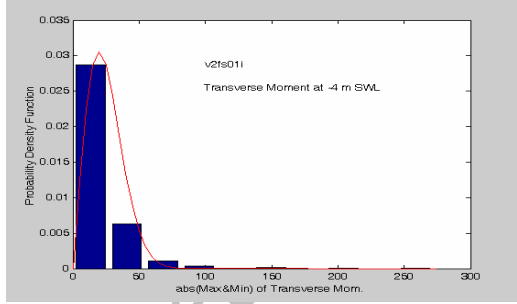
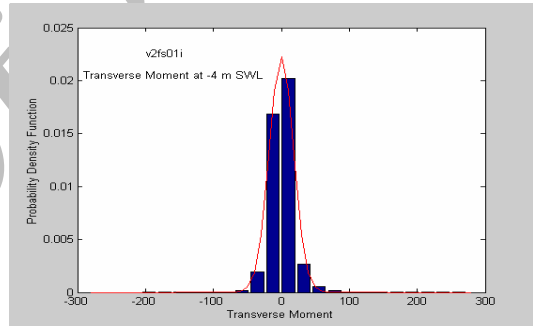
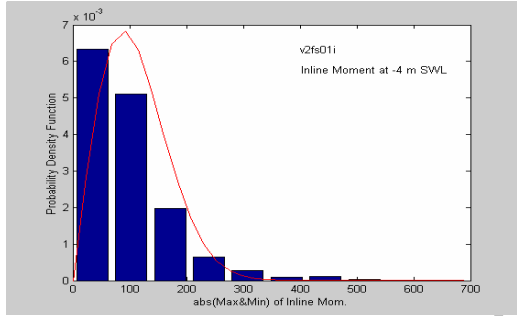
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($Dn = 0.0501 < \varepsilon = 0.1133$, ok)

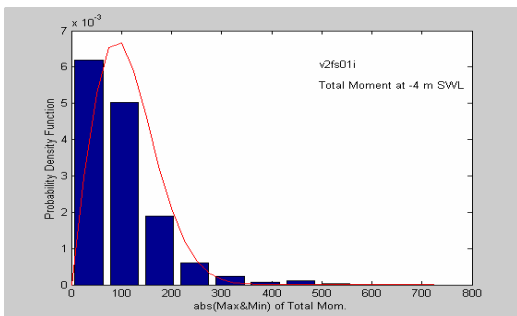
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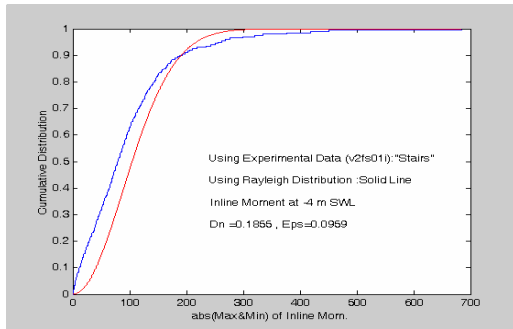


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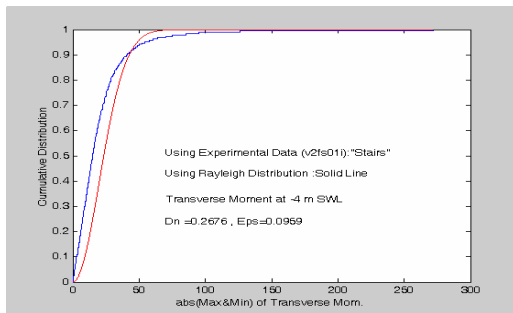
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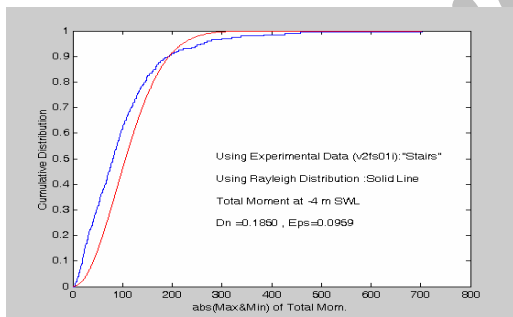
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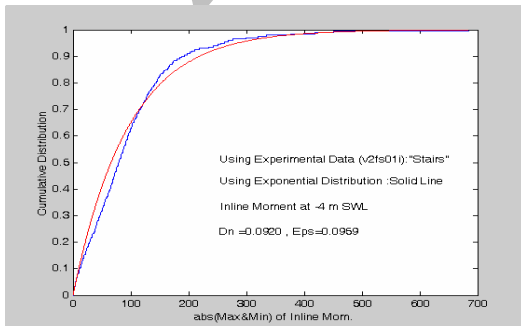
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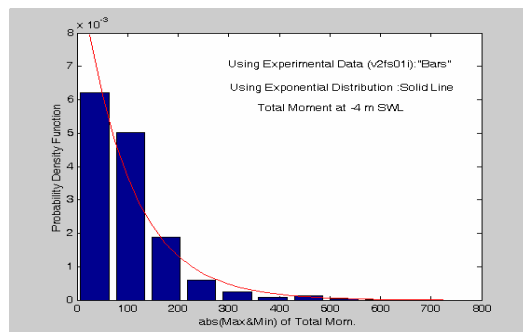
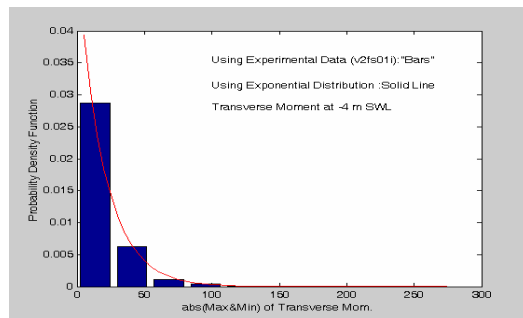
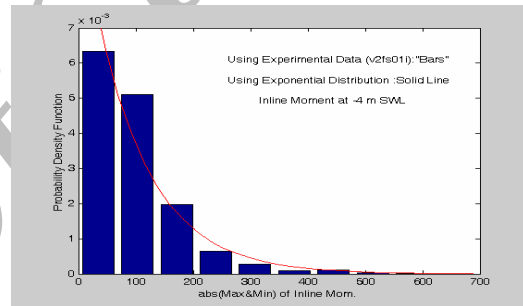


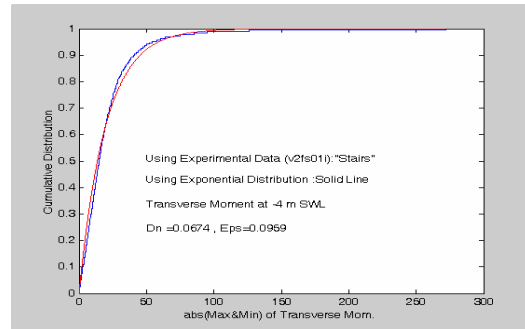
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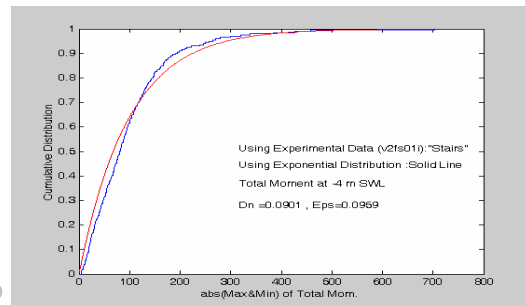
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KS :

		ε	Dn	Dn	
		/	/	/	
		/	/	/	
		/	/	/	

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	:	m_{n_ω}	
	:	m_0	
	:	m_1	KS
	:	m_2	
	:	N_c)
)	:	N_z	(
(:	$p(a)$	
	:	$P(a)$	
	:	$p(H)$	
	:	$P(H)$	
)	:	$p(\tau)$	
(:	$p(\eta)$	
	:	$S(f)$	
	:	$S(\omega)$	
	:	T	
	:	$T_{0,1}$	
	:	$T_{0,2}$	
	:	T_s	
)	:	\bar{T}_z	
(:	\bar{T}_c	
	:	δ_η	
	:	$\eta(t)$	
	:	$[\bar{\eta}(t)]^2$	
(:	ρ	
)	:	τ	
	:	v	
$(\omega = 2\pi/T)$:	ω	()
	:		a
	:		$A(\omega)$
	:		E
	:		\bar{E}
	:		f
	:		g
	:		H
	:		H_{\max}
	:		H_{rms}
	:		m_{n_f}

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- 1 - Stationary
 - 2 - Ergodic
 - 3 - Energy Spectral Density
 - 4 - ZUCW, Zero Up Crossing Wave
 - 5 - Guassian
 - 6 - Rayleigh
 - 7 - Inline Force
 - 8 - Transverse Force
 - 9 - Exponential
 - 10 - Vortex Shedding
 - 11 - Kolmogorov Smirnov
-