

## Supplementary Data for $\langle A_z \rangle^{zz}$ and $K_4$

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# NOTE

## Supplementary Data for $\bar{A}_z$ and $K_4$

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The progressive wave height and added mass of two dimensional body heaving in a free surface were calculated for wide Lewis form section of  $H=4.0$ .

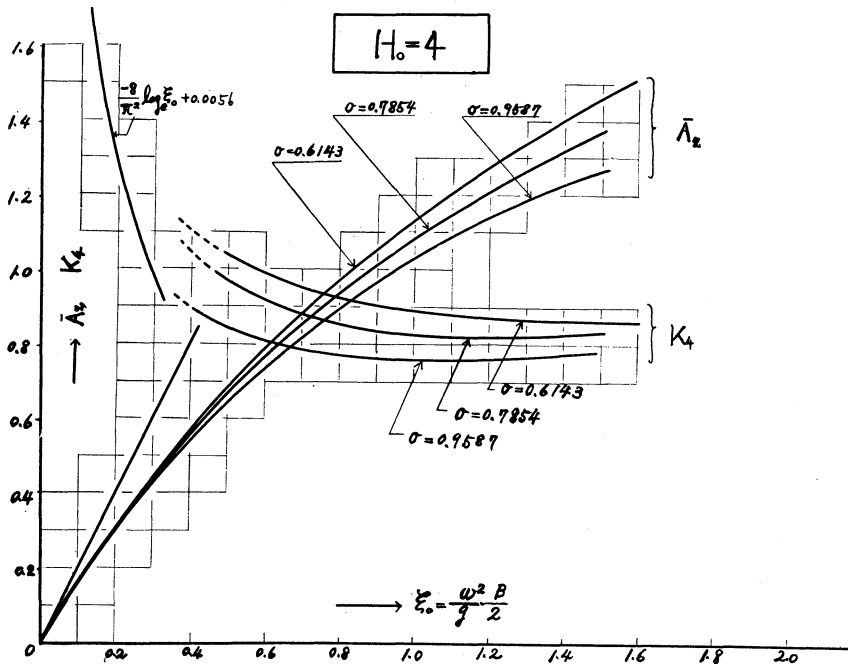
$\bar{A}_z$  and  $K_4$  were shown in the Figure. The following nomenclature is used in this note.

$$H_0 = \frac{B}{2T}, \quad B = \text{breadth of the cylinder in a still water line}$$

$T = \text{draught of the cylinder}$

$$\bar{A}_z = \frac{\text{amplitude of progressive wave}}{\text{amplitude of forced heaving}}$$

$$K_4 = \frac{\text{two dimensional added mass of cylinder}}{\frac{1}{2} \rho \pi \left(\frac{B}{2}\right)^2 \cdot C_0}$$



$$C_0 = \frac{\text{added mass of cylinder in case of } \omega \rightarrow \infty}{\frac{1}{2} \rho \pi \left(\frac{B}{2}\right)^2}$$

$\rho$  = density of fluid

$\omega$  = circular frequency of heaving

$\sigma = \frac{A}{BT}$  = sectional area coefficient

$A$  = immersed sectional area of the cylinder

For  $H_0=4.0$ ,  $C_0$  is given as follows:

| $\sigma$ | $C_0$  |
|----------|--------|
| 0.9587   | 1.1030 |
| 0.7854   | 1.0    |
| 0.6143   | 0.9249 |

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