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Published in:
Journal of Applied Physics

Link to article, DOI:
[10.1063/1.329863](https://doi.org/10.1063/1.329863)

Publication date:
1981

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):
Hansson, I., & Mørch, K. A. (1981). Erratum: The dynamics of cavity clusters in ultrasonic (vibratory) cavitation erosion [J. Appl. Phys. 51, 4651 (1980)]. Journal of Applied Physics, 52(2), 1136. DOI: 10.1063/1.329863

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Erratum: The dynamics of cavity clusters in ultrasonic (vibratory) cavitation erosion [J. Appl. Phys. 51, 4651 (1980)]

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PACS numbers: 43.25. + y, 47.55.Bx, 81.70. + r, 81.60.Bn, 99.10. + g

Equations (16), (17a), and (17b) should read

$$(R\ddot{R} + \dot{R}^2)\pi\delta \ln \frac{1+2\delta}{2\delta} - \beta \dot{R}^2 \left(\frac{R}{r_c}\right)^2 \left(\frac{1}{2} - 2\delta\right) = -\frac{P_\infty - P_c}{\rho\beta}, \tag{16}$$

$$(R\ddot{R} + \dot{R}^2) \left(\ln \frac{r_c}{R} + \pi\delta \ln \frac{1+2\delta}{2\delta} \right) - \dot{R}^2 \left\{ 1 - \beta \left[\frac{1}{2} + 2\delta \left(\frac{R}{r_c}\right)^2 \right] \right\} = \frac{-P_\infty}{\rho\beta}, \tag{17a}$$

$$(R^* \ddot{R}^* + \dot{R}^{*2}) \left(\ln \frac{r_c^*}{R^*} + \pi\delta \ln \frac{1+2\delta}{2\delta} \right) - \dot{R}^{*2} \left\{ 1 - \beta \left[\frac{1}{2} + 2\delta \left(\frac{R^*}{r_c^*}\right)^2 \right] \right\} = -1. \tag{17b}$$

The error has primarily affected the initial part of the cylindrical collapse. The corrected Figs. 4 and 6 are shown. Page 4656, line 18, first column: “30 μs” should be “40 μs”.

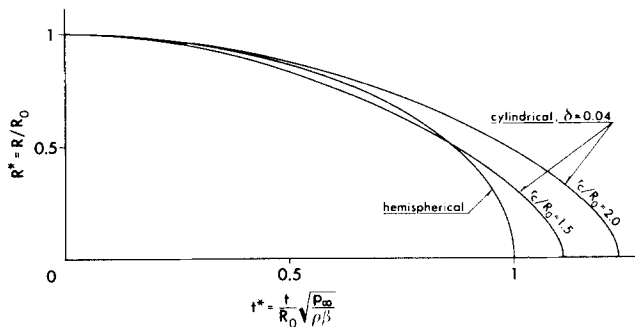


FIG. 4. The cavity cluster radius R during collapse as a function of time (in nondimensional form) for a hemispherical cluster and for two cases of a cylindrical cluster ($\beta \ll 1$ in all the cases).

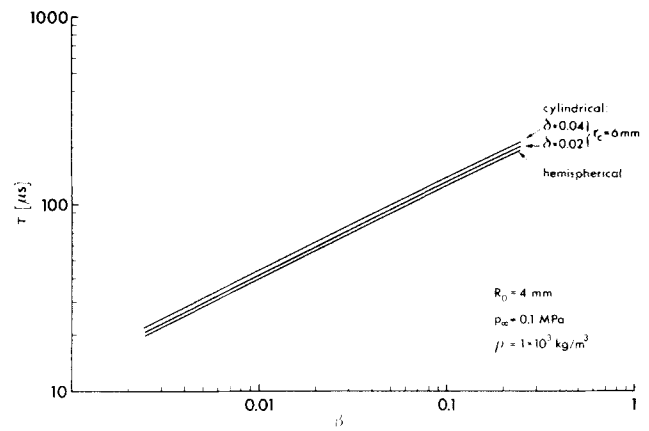


FIG. 6. The total collapse time τ as a function of the volume fraction β of cavitites for a hemispherical cluster and for two cases of a cylindrical cluster.