

Erratum: Radial conduction effects in the pulse method of measuring thermal diffusivity

A. B. Donaldson

Citation: [Journal of Applied Physics](#) **48**, 849 (1977); doi: 10.1063/1.324304

View online: <http://dx.doi.org/10.1063/1.324304>

View Table of Contents: <http://scitation.aip.org/content/aip/journal/jap/48/2?ver=pdfcov>

Published by the [AIP Publishing](#)

Articles you may be interested in

[Thermal diffusivity measurements at high temperatures by the radial flash method](#)

J. Appl. Phys. **51**, 336 (1980); 10.1063/1.327377

[Thermal diffusivity measurement by a radial heat flow method](#)

J. Appl. Phys. **46**, 4584 (1975); 10.1063/1.321399

[Radial conduction effects in the pulse method of measuring thermal diffusivity](#)

J. Appl. Phys. **43**, 4226 (1972); 10.1063/1.1660899

[Pulse Method of Measuring Thermal Diffusivity at High Temperatures](#)

J. Appl. Phys. **34**, 926 (1963); 10.1063/1.1729564

[Pulse Method for the Measurement of Thermal Diffusivity of Metals](#)

J. Appl. Phys. **32**, 40 (1961); 10.1063/1.1735957



Powerful, Multi-functional UV-Vis-NIR and FTIR Spectrophotometers

Providing the utmost in sensitivity, accuracy and resolution for applications in materials characterization and nano research

- Photovoltaics
- Polymers
- Thin films
- Paints
- Ceramics
- DNA film structures
- Coatings
- Packaging materials

[Click here to learn more](#)



Erratum: Radial conduction effects in the pulse method of measuring thermal diffusivity **[J. Appl. Phys. 43, 4226 (1972)]**

A. B. Donaldson

Sandia Laboratories, Albuquerque, New Mexico 87115

PACS numbers: 99.10.+g, 66.70.+f

Table I contains incorrect values and should be replaced by the following:

TABLE I. Values of dimensionless half-time as a function of H_1 and H_2 for various σ .

H_1	H_2/H_1^a	$\tau_{1/2}(\sigma = \infty)$	$\tau_{1/2}(\sigma = 10)$	$\tau_{1/2}(\sigma = 5)$	$\tau_{1/2}(\sigma = 1)$	$\tau_{1/2}(\sigma = 0.5)$	$\tau_{1/2}(\sigma = 0.1)$
0.000	Finite	0.13878	0.13878	0.13867	0.09880	0.08100	0.07311
0.050	0.000	0.13548	0.13548	0.13547	0.09829	0.08068	0.07284
0.050	0.500	0.13417	0.13417	0.13416	0.09804	0.08053	0.07272
0.050	1.000	0.13298	0.13298	0.13298	0.09779	0.08037	0.07259
0.100	0.000	0.13305	0.13305	0.13305	0.09780	0.08037	0.07259
0.100	0.500	0.13087	0.13087	0.13087	0.09731	0.08007	0.07234
0.100	1.000	0.12895	0.12895	0.12895	0.09684	0.07977	0.07209
0.500	0.000	0.12113	0.12113	0.12113	0.09446	0.07822	0.07080
0.500	0.500	0.11518	0.11518	0.11518	0.09240	0.07689	0.06970
0.500	1.000	0.11080	0.11080	0.11080	0.09065	0.07574	0.06873
1.000	0.000	0.11276	0.11276	0.11276	0.09127	0.07609	0.06901
1.000	0.500	0.10455	0.10455	0.10455	0.08781	0.07381	0.06710
1.000	1.000	0.09929	0.09929	0.09929	0.08518	0.07203	0.06558
5.000	0.000	0.09112	0.09112	0.09112	0.07988	0.06793	0.06189
5.000	0.500	0.07729	0.07729	0.07729	0.07140	0.06205	0.05689
5.000	1.000	0.07221	0.07221	0.07221	0.06767	0.05925	0.05442
10.000	0.000	0.08396	0.08396	0.08396	0.07513	0.06423	0.05455
10.000	0.500	0.06768	0.06768	0.06768	0.06409	0.05644	0.05177
10.000	1.000	0.06358	0.06358	0.06358	0.06078	0.05380	0.04908

^aValues of $H_2 \leq H_1$ are taken since for similar surface and surroundings the heat loss is proportional to \bar{T}^3 , and $T_2 \leq T_1$.

Erratum: On the generalized theory of normal mode excitation in electromagnetic and polarized medium waveguides by external sources **[J. Appl. Phys. 46, 1707 (1975)]**

A. A. Barybin

California Institute of Technology, Pasadena, California 91109

PACS numbers: 01.85.+s, 84.40.Sr, 72.30.+q, 72.50.+b

Formulas (78) and (79) must be written

$$\int_{S_1} F_{1\vec{n}}^{(b)} dS = \frac{\partial}{\partial z} \int_{S_1} (\mathbf{e}_z \cdot \mathbf{G}_{1\vec{n}}) dS + \oint_{L_1} (\mathbf{n}_s^+ \cdot \mathbf{G}_{1\vec{n}}^+) dl, \quad (78)$$

$$\int_{S_2} F_{1\vec{n}}^{(b)} dS = \frac{\partial}{\partial z} \int_{S_2} (\mathbf{e}_z \cdot \mathbf{G}_{1\vec{n}}) dS + \oint_{L_2} (\mathbf{n}_s^- \cdot \mathbf{G}_{1\vec{n}}^+) dl. \quad (79)$$

In the subsequent formulas (80), (91), (96), (97), (101), (104), (107), (121), and (125) signs before the contour integrals as $\oint_{L_s} (\dots) dl$ must be replaced by opposite ones.