

This directory contains comma-separated-values files to accompany *Natural Convection Heat Transfer From an Isothermal Plate* by Aubrey Jaffer. Measurements were copied from the text of Aihara et al [1] and Faw and Dullforce [2]. The remaining heat transfer measurements were captured from graphs in the cited works by measuring the distance from each point to its graph’s axes, then scaling to the graph’s units using the “Engauge” software. Measurements obscured by other points in the graph were excluded.

**Table 1 sources of measurements**

Source	Description	Filename	Face	$Ra \geq$	$Ra \leq$
[3] Fujii & Imura	$5 \times 10$ cm	NCHTFPAI.csv	up	$5.7 \times 10^6$	$1.3 \times 10^9$
[3] Fujii & Imura	$30 \times 15$ cm	NCHTFPAI.csv	up	$4.1 \times 10^9$	$4.8 \times 10^{11}$
[4] Goldstein et al	sublimation	NCMTAHP.csv	up	$1.6 \times 10^0$	$6.2 \times 10^3$
[5] Lloyd & Moran	electrochemical	NCAHSVP-lam.csv	up	$2.6 \times 10^4$	$8.0 \times 10^6$
[5] Lloyd & Moran	electrochemical	NCAHSVP-tur.csv	up	$8.0 \times 10^6$	$1.6 \times 10^9$
[6] Churchill & Chu	Cheesewright	vertplate.csv	vertical	$7.0 \times 10^3$	$1.5 \times 10^9$
[6] Churchill & Chu	Jakob	vertplate.csv	vertical	$2.1 \times 10^7$	$1.0 \times 10^{12}$
[6] Churchill & Chu	King	vertplate.csv	vertical	$3.6 \times 10^3$	$1.5 \times 10^8$
[6] Churchill & Chu	Saunders	vertplate.csv	vertical	$2.7 \times 10^0$	$1.7 \times 10^{12}$
[3] Fujii & Imura	$5 \times 10$ cm	NCHTFPAI-Fig.6.csv	vertical	$7.2 \times 10^6$	$1.7 \times 10^8$
[3] Fujii & Imura	$30 \times 15$ cm	NCHTFPAI-Fig.6.csv	vertical	$5.2 \times 10^8$	$6.1 \times 10^{10}$
[7] Hassani & Hollands	82 mm disk	vertdisk.csv	vertical	$1.4 \times 10^0$	$2.7 \times 10^5$
[7] Kobus & Wedekind	3 sizes disk	vertdisk.csv	vertical	$6.7 \times 10^1$	$1.2 \times 10^4$
[1] Aihara et al	$25 \times 35$ cm	Aihara.csv	down	$7.2 \times 10^6$	$1.0 \times 10^7$
[2] Faw & Dullforce	18.1 cm disk	Faw.csv	down	$1.1 \times 10^6$	$1.6 \times 10^6$
[3] Fujii & Imura	$5 \times 10$ cm	NCHTFPAI.p7.csv	down	$1.8 \times 10^7$	$4.5 \times 10^9$
[3] Fujii & Imura	$30 \times 15$ cm	NCHTFPAI.p7.csv	down	$9.3 \times 10^9$	$7.6 \times 10^{11}$
[3] Fujii & Imura	$5 \times 10$ cm	NCHTFPAI-Fig.10.csv	inclined	$1.0 \times 10^8$	
[3] Fujii & Imura	$30 \times 15$ cm	NCHTFPAI-Fig.10.csv	inclined	$1.0 \times 10^{10}$	

- [1] T Aihara, Y Yamada, and S Endö. Free convection along the downward-facing surface of a heated horizontal plate. *International Journal of Heat and Mass Transfer*, 15(12):2535 – 2549, 1972, doi:10.1016/0017-9310(72)90145-7.
- [2] R.E. Faw and T.A. Dullforce. Holographic interferometry measurement of convective heat transport beneath a heated horizontal circular plate in air. *International Journal of Heat and Mass Transfer*, 25(8):1157 – 1166, 1982, doi:10.1016/0017-9310(82)90210-1.
- [3] Tetsu Fujii and Hideaki Imura. Natural-convection heat transfer from a plate with arbitrary inclination. *International Journal of Heat and Mass Transfer*, 15(4):755–764, 1972, doi:10.1016/0017-9310(72)90118-4.
- [4] R.J. Goldstein, E.M. Sparrow, and D.C. Jones. Natural convection mass transfer adjacent to horizontal plates. *International Journal of Heat and Mass Transfer*, 16(5):1025 – 1035, 1973, doi:10.1016/0017-9310(73)90041-0.
- [5] JR Lloyd and WR Moran. Natural convection adjacent to horizontal surface of various planforms. *Journal of Heat Transfer*, 96(4):443–447, 1974, doi:10.1115/1.3450224.
- [6] Stuart W Churchill and Humbert HS Chu. Correlating equations for laminar and turbulent free convection from a vertical plate. *International journal of heat and mass transfer*, 18(11):1323–1329, 1975, doi:10.1016/0017-9310(75)90243-4.
- [7] C.J. Kobus and G.L. Wedekind. An experimental investigation into forced, natural and combined forced and natural convective heat transfer from stationary isothermal circular disks. *International Journal of Heat and Mass Transfer*, 38(18):3329 – 3339, 1995, doi:10.1016/0017-9310(95)00096-R.