This directory contains comma-separated- or tab-separated-values files to accompany *Skin-Friction and Forced Convection from Rough and Smooth Plates* by Aubrey Jaffer.

Table S1 Sources of friction measurements

Source	Filename	Pr_∞	$Re \geq$	$Re \leq$	$\pm$	Count
[1, 2, 3] Churchill	`Churchill-smooth.tsv`	0.71	1.0×10^5	1.0×10^9		9
[1, 2, 3] Churchill	`Churchill-local.tsv`	0.71	1.0×10^5	1.0×10^{10}		11
[4] Žukauskas & Šlančiauskas	`ZSSF.csv`, group 3	55.2	3.6×10^5	1.1×10^7		5
[4] Žukauskas & Šlančiauskas	`ZSSF.csv`, group 2	5.42	3.6×10^5	2.4×10^6		8
[4] Žukauskas & Šlančiauskas	`ZSSF.csv`, group 1	2.78	7.2×10^5	4.4×10^6		8
[4] Žukauskas & Šlančiauskas	`ZSSF.csv`, gruop 0	0.71	7.6×10^5	3.2×10^6		9
[5, 6, 7] Gebers	`Gebers.csv`		7.4×10^5	3.3×10^7		33
[8] Pimenta et al.	`Pimenta-et-al.dat`	0.71	3.8×10^5	5.8×10^6	10%	19
[9] Bergstrom et al.	`Bergstrom-SM.dat`	0.71	1.6×10^6	4.6×10^6	5%	4
[9] Bergstrom et al.	`Bergstrom-SGL.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-SGML.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-SGM.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-SGS.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-WML.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-WMM.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-WMS.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-PL.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-PM.dat`	0.71	1.6×10^6	4.7×10^6	9%	4
[9] Bergstrom et al.	`Bergstrom-PS.dat`	0.71	1.6×10^6	4.7×10^6	9%	4

Note: Churchill [1] extracted its measurements from Smith and Walker [2] and Spalding and Chi [3].

The Gebers [5, 6] skin-friction measurements were captured from a graph in Schlichting [7] by measuring the distance from each point to the graph's axes, then scaling to the graph's units using the "Engauge" software.

Table S2 Sources of convection measurements

Source	Filename	Pr_∞	$Re \geq$	$Re \leq$	$\pm$	Count
[10] Kestin et al.	`Kestin.csv`, group 1	0.7	3.8×10^4	3.5×10^5		13
[10] Kestin et al.	`Kestin.csv`, group 2	0.7	4.3×10^4	2.9×10^5		7
[11] Reynolds et al.	`Reynolds.csv`	0.71	8.2×10^4	1.1×10^6	4%	22
[4] Žukauskas & Šlančiauskas	`UHF.csv`, group 2	0.71	1.1×10^4	8.2×10^5	5%	10
[4] Žukauskas & Šlančiauskas	`UHF.csv`, group 1	0.71	1.1×10^4	8.2×10^5	5%	10
[4] Žukauskas & Šlančiauskas	`UHF.csv`, group 0	0.71	1.1×10^4	8.2×10^5	5%	10
[4] Žukauskas & Šlančiauskas	`UHF.csv`, group 4	6.57	4.0×10^3	2.2×10^5	10%	19
[4] Žukauskas & Šlančiauskas	`UHF.csv`, group 3	6.57	5.0×10^3	2.2×10^5	10%	15
[4] Žukauskas & Šlančiauskas	`UHF.csv`, group 6	108.	3.0×10^4	3.0×10^5	5%	17
[4] Žukauskas & Šlančiauskas	`UHF.csv`, group 5	257.	1.2×10^4	1.1×10^5	5%	17
[4] Žukauskas & Šlančiauskas	`ZSCV.csv`, group 0	0.71	1.1×10^5	6.3×10^5	5%	16
[4] Žukauskas & Šlančiauskas	`ZSCV.csv`, group 3	0.71	1.7×10^5	7.5×10^5	5%	19
[4] Žukauskas & Šlančiauskas	`ZSCV.csv`, group 1	5.8-7.1	1.4×10^6	2.3×10^6	10%	5
[4] Žukauskas & Šlančiauskas	`ZSCV.csv`, group 4	2.9-7.2	2.1×10^5	6.4×10^6	10%	21
[4] Žukauskas & Šlančiauskas	`ZSCV.csv`, group 5	2.0-5.8	1.8×10^5	1.4×10^6	10%	40
[4] Žukauskas & Šlančiauskas	`ZSCV.csv`, group 2	75-246	5.0×10^4	7.0×10^5	5%	40
[4] Žukauskas & Šlančiauskas	`ZSCV.csv`, group 6	80-205	1.1×10^5	3.6×10^5	5%	11
[4] Žukauskas & Šlančiauskas	`ZSCV.csv`, group 7	92-317	2.7×10^4	7.5×10^5	5%	29
present apparatus $\varepsilon = 3.00$ mm	`3mm/mixed-dn.dat`	0.71	2.3×10^3	9.3×10^4	3-7%	13
present apparatus $\varepsilon = 1.04$ mm	`1mm/mixed-dn.dat`	0.71	2.0×10^3	6.8×10^4	2-6%	14

Rough surface convection measurements were obtained from an apparatus built for this investigation, which measured average convection in air at $2300 < Re < 93000$. The fields are Re, Ra, $\pm\%$, θ, ψ, Pr, and $\overline{Nu}$. $\pm\%$ is the RSS combined measurement uncertainty.

The remaining measurement data-sets were manually entered from tables in the cited works. Several obvious single-digit typographical errors were corrected.

Table S3 Other data sources

Source	Filename	What	Low	High	Count
[4] Žukauskas & Šlančiauskas	`fluids.csv`, group 1	air	20°C	90°C	8
present work	`fluids2.csv`, group 1	air	10°C	100°C	46
[4] Žukauskas & Šlančiauskas	`fluids.csv`, group 2	water	20°C	90°C	8
present work	`fluids2.csv`, group 2	water	10°C	100°C	46
[4] Žukauskas & Šlančiauskas	`fluids.csv`, group 3	transformer oil	30°C	120°C	10
present work	`fluids2.csv`, group 3	transformer oil	10°C	100°C	46

Žukauskas and Šlančiauskas [4] is the source for fluid properties `fluids.csv`. This investigation calculated more accurate fluid properties in `fluids2.csv`, which were used in the error calculations.

1. References

[1] Stuart W. Churchill. Theoretically based expressions in closed form for the local and mean coefficients of skin friction in fully turbulent flow along smooth and rough plates. *International Journal of Heat and Fluid Flow*, 14(3):231 – 239, 1993, doi:10.1016/0142-727X(93)90053-P.

[2] D. W. Smith and J. D. Walker. Skin friction measurements in incompressible flow. Technical Report R-26, NASA, Washington, DC, 1959.

[3] D. B. Spalding and S. W. Chi. The drag of a compressible turbulent boundary layer on a smooth flat plate with and without heat transfer. *Journal of Fluid Mechanics*, 18(1):117143, 1964, doi:10.1017/S0022112064000088.

[4] A. Žukauskas and A. Šlančiauskas. *Heat Transfer in Turbulent Fluid Flows*. Hemisphere Publishing Corp, Washington, DC, 1987.

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[6] F. Gebers. Das ähnlichkeitsgesetz für den flächenwiderstand in wasser geradling fortbewegter polierter platten. *Schiffbau*, 22:687 – 930, 1920 - 1921.

[7] Hermann Schlichting. *Boundary-Layer Theory*. McGraw Hill, New Delhi, seventh edition, 2014. Translated by Kestin, J.

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