Supplementary Material for "Ice Scallops: A Laboratory Investigation of the Ice-Water Interface"

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Experiment	U (m/s)	Water Temp (°C)	Bed Temp (°C)	Bed Angle (°)
1a	1.00	0.6	-3.9	0.7
1b	0.16	0.6	-3.9	0.0
2	0.85	0.6	-3.9	0.5
3	0.93	0.6	-3.9	0.0
4	0.98	0.6	-28.9	0.3
5	0.80	0.6	-3.9	0.4
6	0.65	0.6	-28.9	0.0
7	0.88	0.6	-3.9	0.2
8	1.04	0.6	-3.9	0.2
9	1.10	0.6	-15	0.4
10	0.40	0.2	-3.9	0.0
11	0.20	1.7	-3.9	0.0
12	0.18	3.0	-3.9	0.0
13	0.85	0.7	-3.9	0.5
14	0.70	0.9	-3.9	0.4
15	0.40	1.5	-3.9	0.0
16	0.85	1.0	-3.9	0.5
17	0.85	0.6	-3.9	0.5

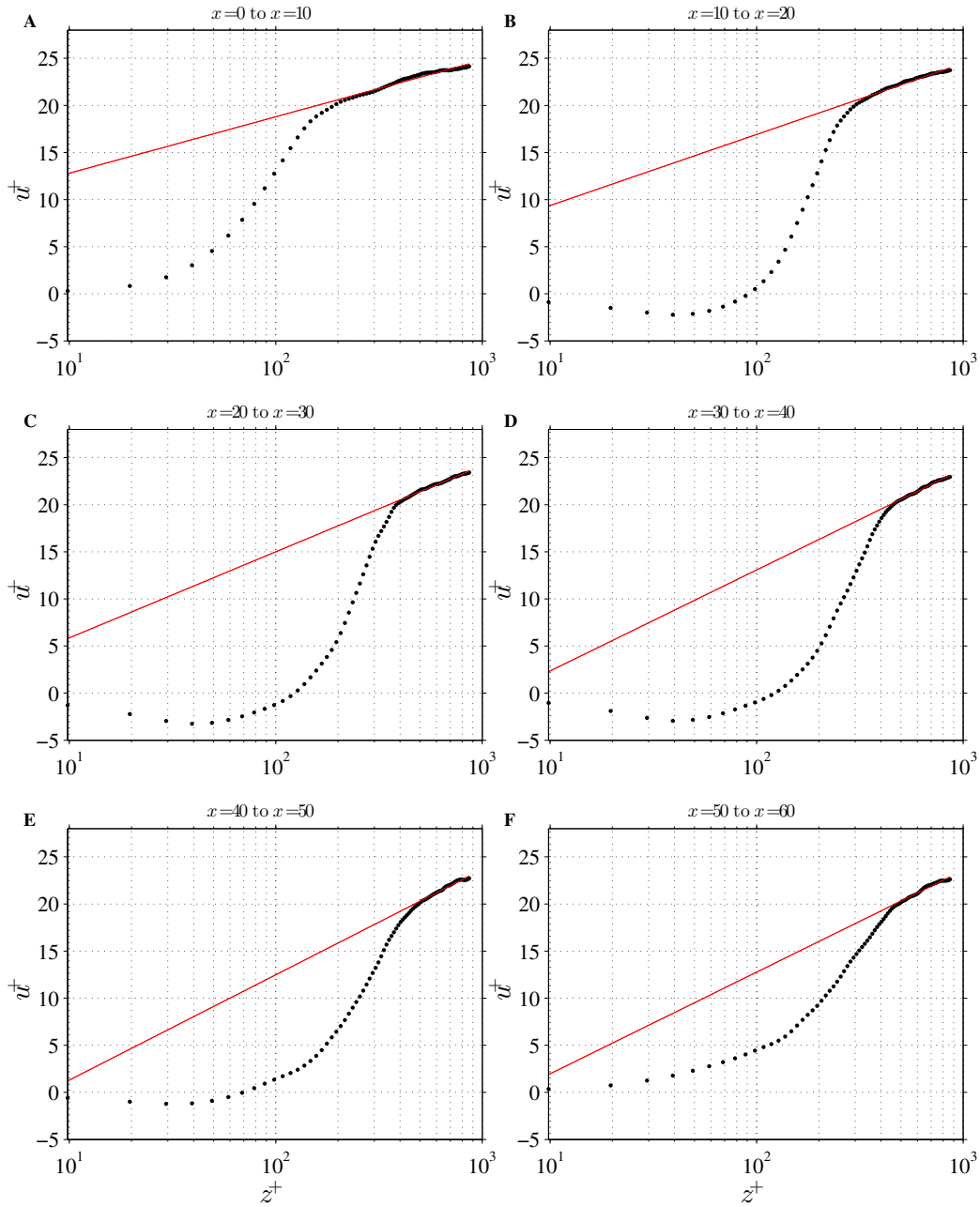TABLE 1. Summary of experiments performed in this study.

FIGURE 1. Law of the wall relationship over scalloped ice from Experiment 3, showing the non-dimensional velocity u^+ plotted as a function of the logarithm of the non-dimensional distance z^+. The red curve is a logarithmic fit to the data points in the "log-law" region. Boundary layer velocities are averaged over different x-values within the scallop trough (see Fig. 5f): (A) $x = 0$ to $x = 10$; (B) $x = 10$ to $x = 20$; (C) $x = 20$ to $x = 30$; (D) $x = 30$ to $x = 40$; (E) $x = 40$ to $x = 50$; and (F) $x = 50$ to $x = 60$.
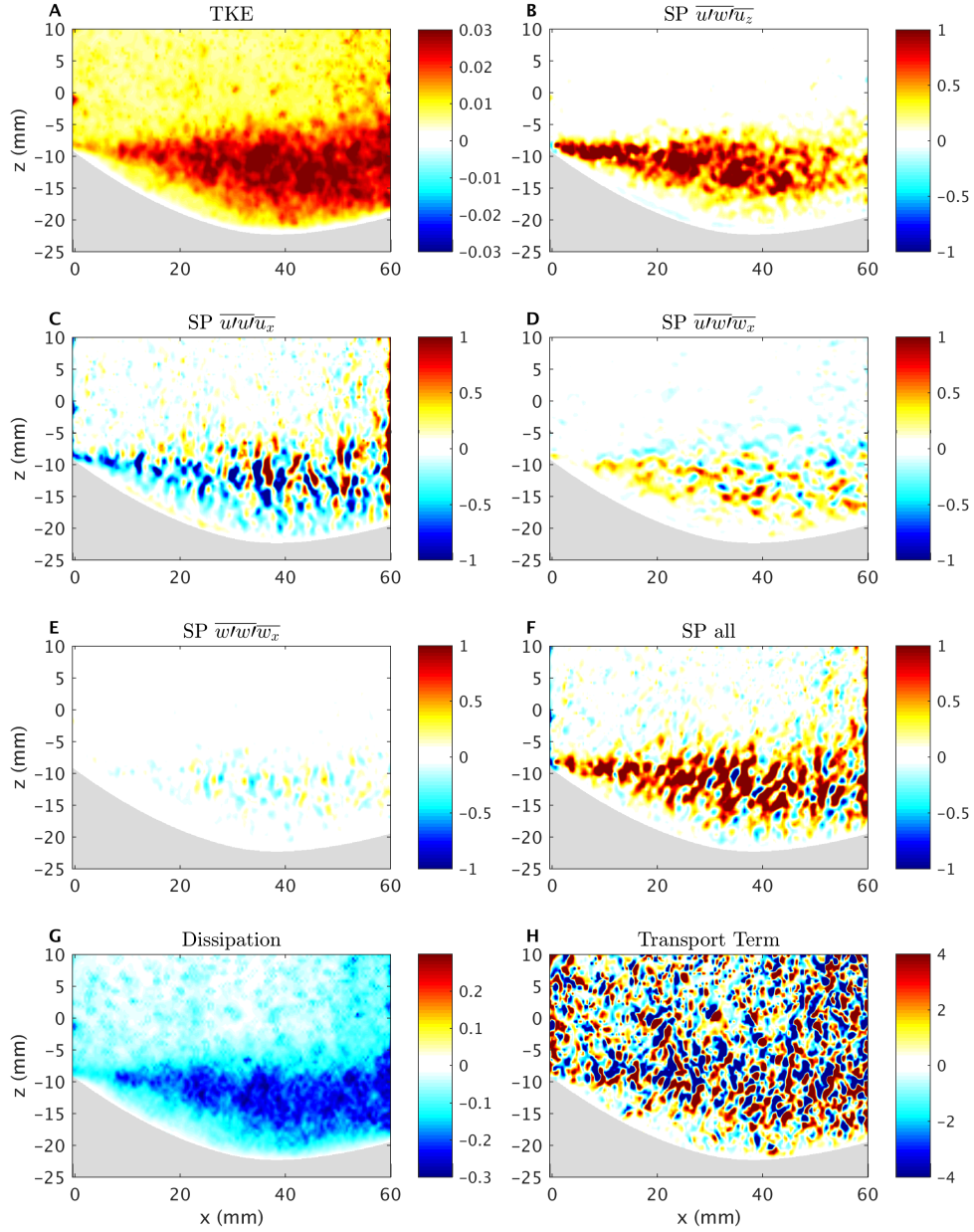
FIGURE 2. TKE budget terms over a well-developed scallop from Experiment 3: (A) TKE (m^2/s^2); (B)-(E) S_{xz}, S_{xx}, S_{zx}, and S_{zz} shear production terms (m^2/s^3); (F) sum of the four shear production terms; (G) Dissipation term (m^2/s^3); and (H) Transport term (m^2/s^3).