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Supplement of

Improved GNSS-R bi-static altimetry and independent digital elevation models of Greenland and Antarctica from TechDemoSat-1

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Table S1: Difference from *Slater et al.* [2018] DEM (top, Antarctic) and ESA CCI DEM (below, Greenland) shown in metres at different slope ranges. TechDemoSat-1 data produced according to methods in paper.

		Antarctic		
Slope Range (degrees)	Median difference (m)	Mean difference (m)	RMS difference (m)	% of total samples
0.00-0.25	8.35	8.12	36.90	55.52
0.25-0.50	10.26	9.17	43.42	23.02
0.50-0.75	16.64	18.22	58.71	9.30
0.75-1.00	19.19	24.95	76.00	4.24
>1.00	-27.96	14.38	176.34	7.92
		Greenland		
Slope Range (degrees)	Median difference (m)	Mean difference (m)	RMS difference (m)	% of total samples
0.00-0.25	9.26	9.22	30.07	66.83
0.25-0.50	30.93	34.91	66.45	11.43
0.50-0.75	39.32	41.15	102.35	3.20
0.75-1.00	38.87	28.77	131.29	2.00
>1.00	-92.98	-190.10	391.28	16.54

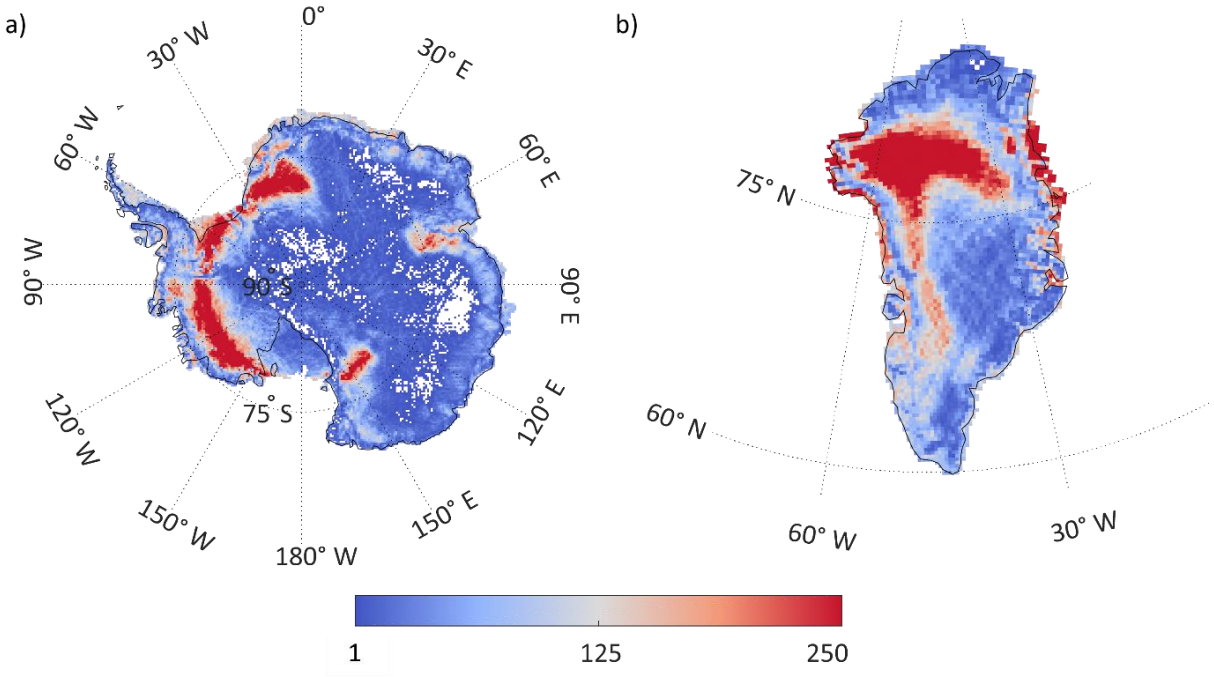

Figure S1: Counts of measurements per 25 km grid cell over Antarctica (left) and Greenland (right).

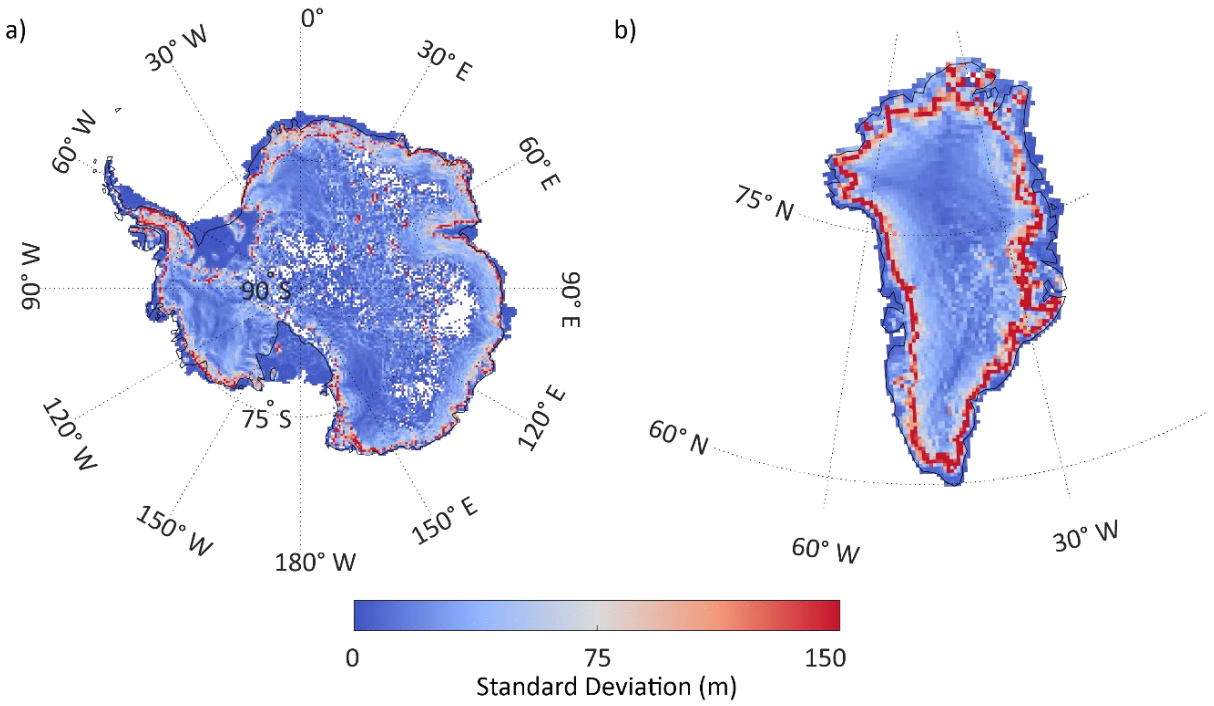

Figure S2: Standard deviation of measurements in metres per 25 km grid cell over Antarctica (left) and Greenland (right).

Slater, T., A. Shepherd, M. McMillan, A. Muir, L. Gilbert, A. E. Hogg, H. Konrad, and T. Parrinello (2018), A new digital elevation model of Antarctica derived from CryoSat-2 altimetry, *The Cryosphere*, *12*(4), 1551-1562, doi:10.5194/tc-12-1551-2018.