

1 **Supplementary material for Two-dimensional thermal and dynamical strain in landfast sea ice from**  
 2 **InSAR: results from a new analytical inverse method and field observations**

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4 **Supplementary Tables**

5 **Table S1.** Attributes of S1 images used to create the 15 interferograms analyzed in this work.  $B_{\perp}$   
 6 indicates perpendicular baseline between images. Look elevation is recorded as the mean of elevation  
 7 angles at all pixels in the study area. Abbreviations DESC and ASC indicate images taken on descending  
 8 and ascending orbits, respectively.

Satellite	Datetime	Orbit	Direction	$B_{\perp}$ (m)	look el. (°)
S1A	2018/12/12 16:59:36	24995	DESC	137.21	47.52
	2018/12/24 16:59:36	25170			
S1B	2018/12/16 03:54:51	14062	ASC	-17.68	45.83
	2018/12/28 03:54:50	14237			
S1B	2018/12/18 03:38:23	14091	ASC	-52.92	54.16
	2018/12/30 03:38:23	14266			
S1A	2018/12/24 16:59:36	25170	DESC	-10.24	47.53
	2019/01/05 16:59:35	25345			
S1B	2018/12/30 03:38:23	14266	ASC	22.75	54.15
	2019/01/11 03:38:23	14441			
S1A	2019/01/17 16:59:35	25520	DESC	-1.65	47.52
	2019/01/29 16:59:35	25695			
S1B	2019/01/21 03:54:49	14587	ASC	-2.61	45.83
	2019/02/02 03:54:49	14762			
S1A	2019/01/29 16:59:35	25695	DESC	-49.96	47.52
	2019/02/10 16:59:34	25870			
S1A	2019/02/10 16:59:34	25870	DESC	80.30	47.52
	2019/02/22 16:59:34	26045			
S1A	2019/02/22 16:59:34	26045	DESC	59.46	47.52
	2019/03/06 16:59:34	26220			
S1B	2019/02/26 03:54:49	15112	ASC	55.75	45.82
	2019/03/10 03:54:49	15287			
S1A	2019/03/06 16:59:34	26220	DESC	-78.46	47.53
	2019/03/18 16:59:34	26395			
S1A	2019/03/18 16:59:34	26395	DESC	-54.29	47.52
	2019/03/30 16:59:34	26570			
S1A	2019/03/30 16:59:34	26570	DESC	-55.57	47.52
	2019/04/11 16:59:35	26745			
S1B	2019/04/15 03:54:49	15812	ASC	-101.46	45.83
	2019/04/27 03:54:50	15987			

9 **Table S2.** Attributes of TDX images used to create the 3 TDX interferograms used in this work.  $B_{\perp}$   
 10 indicates perpendicular baseline between images. Look elevation is recorded as the mean of elevation  
 11 angles at all pixels in the study area. Abbreviations DESC and ASC indicate images taken on descending  
 12 and ascending orbits, respectively.

Satellite	Datetime	Direction	$B_{\perp}$ (m)	look el. (°)
TSX	2015/01/06 03:18:58	ASC	339	69.14
TDX	2015/01/06 03:19:08			
TSX	2015/01/11 03:27:31	ASC	395	61.71
TDX	2015/01/11 03:27:41			
TSX	2015/01/22 03:27:31	ASC	166	61.75
TDX	2015/01/22 03:27:41			

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