

Supplementary Materials **Table S1**. Average maximum wavelet coefficients (Wmax) obtained at continuous wavelet transform (CWT) procedure with different scales for five records of multielectrode electrical potential registration in pea seedlings.

	Gaus-2 Scale 5	Gaus-2 Scale 10	Gaus-2 Scale 15	Gaus-2 Scale 20	Gaus-2 Scale 50	Gaus-2 Scale 100	Gaus-2 Scale 200
Electrode 1	36 ± 9	62 ± 13	80 ± 17	109 ± 20	205 ± 38	299 ± 44	430 ± 70
Electrode 2	41 ± 8	74 ± 14	101 ± 17	135 ± 27	231 ± 50	323 ± 68	458 ± 93
Electrode 3	39 ± 8	69 ± 13	91 ± 16	109 ± 19	184 ± 28	251 ± 34	334 ± 43
Electrode 4	38 ± 8	66 ± 14	87 ± 17	115 ± 15	201 ± 16	271 ± 17	377 ± 37
Electrode 5	47 ± 12	74 ± 14	97 ± 17	117 ± 19	192 ± 28	263 ± 23	374 ± 24

**Table S2**. Average maximum wavelet coefficients (Wmax) obtained at continuous wavelet transform (CWT) procedure with different scales for five records of multielectrode electrical potential registration in wheat seedlings.

	Gaus-2 Scale 5	Gaus-2 Scale 10	Gaus-2 Scale 15	Gaus-2 Scale 20	Gaus-2 Scale 50	Gaus-2 Scale 100	Gaus-2 Scale 200
Electrode 1	53 ± 6	87 ± 9	110 ± 11	129 ± 12	187 ± 16	229 ± 21	242 ± 61
Electrode 2	40 ± 12	59 ± 9	79 ± 10	94 ± 12	155 ± 15	194 ± 15	217 ± 50
Electrode 3	27 ± 5	48 ± 10	65 ± 15	80 ± 19	128 ± 27	155 ± 35	224 ± 53
Electrode 4	19 ± 4	35 ± 11	46 ± 17	55 ± 21	88 ± 32	119 ± 38	117 ± 76
Electrode 5	14 ± 4	22 ± 7	31 ± 11	39 ± 14	73 ± 27	106 ± 33	145 ± 47

**Table S3**. Amplitude (mV) of the heating-induced variation potential (VP) in pea seedlings, calculated using manual (MP) or automatic processing (AP) (scale 5).

№	Electrode 1		Electrode 2		Electrode 3		Electrode 4		Electrode 5	
	AP	MP	AP	MP	AP	MP	AP	MP	AP	MP
1	36.0	43.5	56.0	56.0	64.5	64.5	42.0	42.0	38.0	38.0
2	41.0	41.0	43.0	43.0	56.5	56.5	42.5	42.5	52.0	52.0
3	85.0	85.0	85.5	85.5	84.0	84.0	76.0	76.0	84.0	84.0
4	94.0	94.0	93.0	93.0	96.0	96.0	88.5	88.5	n/d	n/d
5	69.0	69.0	66.0	66.0	54.0	55.0	53.5	55.0	60.5	61.5
Mean ± SEM	65.0 ± 11.6	66.5 ± 10.7	68.7 ± 9.2	68.7 ± 9.2	71.0 ± 8.2	71.2 ± 8.1	60.5 ± 9.3	60.8 ± 9.3	58.6 ± 9.6	58.9 ± 9.7

The distances between the stimulated area and the electrodes E1–E5 were 3, 4.5, 6, 7.5, and 10.5 cm, respectively.

**Table S4**. Amplitude (mV) of the heating-induced variation potential (VP) in wheat seedlings, calculated using manual (MP) or automatic processing (AP) (scale 10).

№	Electrode 1		Electrode 2		Electrode 3		Electrode 4		Electrode 5	
	AP	MP	AP	MP	AP	MP	AP	MP	AP	MP
1	85.0	83.0	66.5	65.5	69.5	71.0	65.5	68.0	41.0	38.0
2	94.5	94.5	60.0	63.5	70.5	75.5	15.5	20.5	19.5	24.0
3	82.5	82.5	51.0	52.0	67.5	68.5	60.0	61.5	61.0	62.5
4	62.5	52.5	48.5	36.0	23.5	30.5	18.5	34.5	26.5	30.0
Mean ± SEM	81.1 ± 6.7	78.1 ± 9.0	56.5 ± 4.1	54.3 ± 6.8	57.8 ± 11.4	61.4 ± 10.4	39.9 ± 13.3	46.1 ± 11.2	37.0 ± 9.2	38.6 ± 8.5

The distances between the stimulated area and the electrodes E1–E5 were 1.5, 3, 4.5, 6, and 7.5 cm, respectively.

**Table S5**. The start time (s) of the heating-induced variation potential (VP) in pea seedlings, calculated using manual (MP) or automatic processing (AP) (scale 5).

Electrode 1	Electrode 2	Electrode 3	Electrode 4	Electrode 5
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N <sub>o</sub>	AP	MP	AP	MP	AP	MP	AP	MP	AP	MP
1	782.0	781.0	791.0	791.0	800.0	800.0	815.0	815.0	827.0	827.0
2	754.0	754.0	766.0	766.0	766.0	766.0	767.0	767.0	784.0	784.0
3	718.0	718.0	723.0	723.0	727.0	727.0	731.0	731.0	736.0	736.0
4	732.0	732.0	737.0	737.0	740.0	740.0	744.0	744.0	956.0	748.0
5	765.0	765.0	777.0	777.0	782.0	781.0	794.0	793.0	805.0	804.0
Mean ± SEM	750.2 ± 11.4	750.0 ± 11.3	758.8 ± 12.6	758.8 ± 12.6	763.0 ± 13.3	762.8 ± 13.3	770.2 ± 15.5	770.0 ± 15.4	821.6 ± 36.8	779.8 ± 17.0

The distances between the stimulated area and the electrodes E1–E5 were 3, 4.5, 6, 7.5, and 10.5 cm, respectively.

**Table S6.** The start time (s) of the heating-induced variation potential (VP) in wheat seedling, calculated using manual (MP) or automatic processing (AP) (scale 10).

N <sub>o</sub>	Electrode 1		Electrode 2		Electrode 3		Electrode 4		Electrode 5	
	AP	MP	AP	MP	AP	MP	AP	MP	AP	MP
1	301.0	302.0	314.0	309.0	325.0	321.0	340.0	334.0	366.0	356.0
2	300.0	301.0	326.0	319.0	355.0	347.0	394.0	380.0	424.0	411.0
3	354.0	352.0	368.0	364.0	374.0	368.0	384.0	379.0	390.0	386.0
4	302.0	302.0	315.0	321.0	370.0	355.0	402.0	371.0	406.0	393.0
Mean ± SEM	314.3 ± 13.3	314.3 ± 12.6	330.8 ± 12.7	328.3 ± 12.2	356.0 ± 11.1	347.8 ± 9.9	380.0 ± 13.8	366.0 ± 10.9	396.5 ± 12.3	386.5 ± 11.4

The distance between the stimulated area and the electrodes E1–E5 were 1.5, 3, 4.5, 6, and 7.5 cm, respectively.

**Table S7.** Amplitudes of VP-induced changes in CO<sub>2</sub> assimilation rate (A,  $\mu\text{mol m}^{-2} \text{s}^{-1}$ ), transpiration level (E,  $\text{mmol m}^{-2} \text{s}^{-1}$ ), quantum yields of photosystems I and II (YI and YII) and non-photochemical fluorescence quenching (NPQ) in pea seedling leaves, calculated using manual (MP) or automatic processing (AP) (scale 10).

N <sub>o</sub>	A		E		Y (I)		Y (II)		NPQ	
	AP	MP	AP	MP	AP	MP	AP	MP	AP	MP
1	2.900	2.500	0.860	0.850	0.052	0.039	0.065	0.065	0.707	0.707
2	2.700	2.890	1.020	1.030	0.147	0.152	0.166	0.164	0.816	0.824
3	1.680	1.980	0.720	0.780		0.056	0.068	0.068	0.708	0.710
4	1.680	1.740	0.360	0.480	0.066	0.067	0.060	0.058	0.675	0.670
5	1.800	1.680	0.300	0.240	0.115	0.102	0.104	0.105	0.603	0.600
6	2.290	2.290	0.780	0.960	0.045	0.044	0.071	0.072	0.540	0.832
Mean ± SEM	2.175 ± 0.219	2.180 ± 0.192	0.675 ± 0.117	0.723 ± 0.124	0.085 ± 0.020	0.077 ± 0.018	0.089 ± 0.017	0.089 ± 0.016	0.675 ± 0.039	0.724 ± 0.037