HRV Analysis - Standard Results

Person:				Measurement Info				Results for Sample 1/6	
Gender:	Male	Height:	180 cm	Date:		Trend removal:	Smoothn priors	Sample start:	00:00:05
Age:	49 years	Weight:	78 kg	Start time:	00:00:00	Artefact corr.:	Automatic correction	Sample length:	00:05:00
Max HR:	171 bpm	BMI:	24.1 kg/m2	Duration:	00:30:15	Analysis samples:	6	Beats corrected:	3 (0.68 %)

RR Time Series
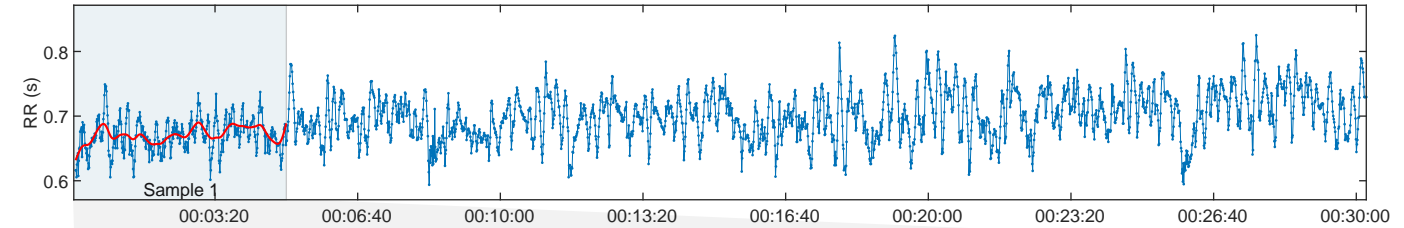
Selected Detrended RR Series
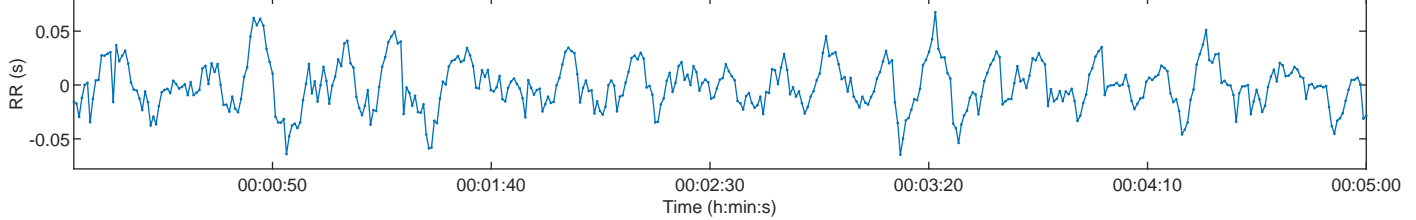
Autonomic nervous system indexes

Parasympathetic Nervous System (PNS)

Mean RR	RMSSD	SD1
670 ms	**14.0** ms	**25.4** %

PNS Index = -1.99

Sympathetic Nervous System (SNS)

Mean HR	Stress index	SD2
90 bpm	**20.6**	**74.6** %

SNS Index = 3.38

Parasympathetic tone (recovery) PNS Index = -1.99

Sympathetic tone (stress) SNS Index = 3.38
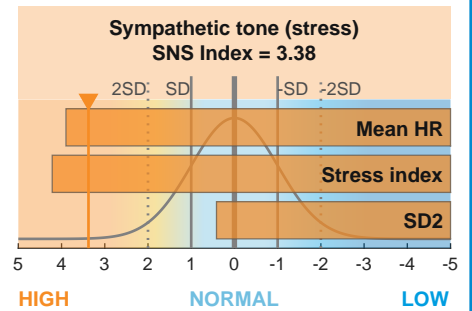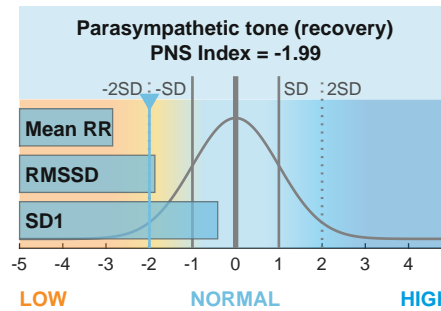
Time-Domain Results

Variable	Units	Value
Mean RR*	(ms)	670
Mean HR*	(bpm)	90
Min HR	(bpm)	81
Max HR	(bpm)	98
SDNN	(ms)	21.7
RMSSD	(ms)	14.0
NN50	(beats)	2
pNN50	(%)	0.45
RR triangular index		5.89
TINN	(ms)	105.0
Stress Index (SI)		20.6
DC	(ms)	6.4
DCmod	(ms)	12.7
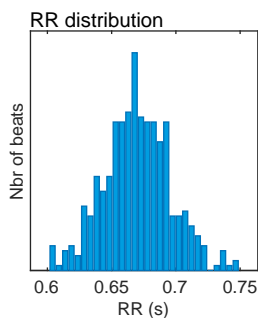
RR distribution

Frequency-Domain Results (FFT spectrum)

Variable	Units	VLF	LF	HF
Frequency band	(Hz)	0.00-0.04	0.04-0.15	0.15-0.40
Peak frequency	(Hz)	0.040	0.083	0.163
Power	(ms^2)	24	301	58
Power	(log)	3.191	5.706	4.068
Power	(%)	6.34	78.36	15.24
Power	(n.u.)		83.67	16.28

Total power	(ms^2)	384		
Total Power	(log)	5.949		
LF/HF ratio		5.141		
RESP	(Hz)	0.27		

RR Spectrum
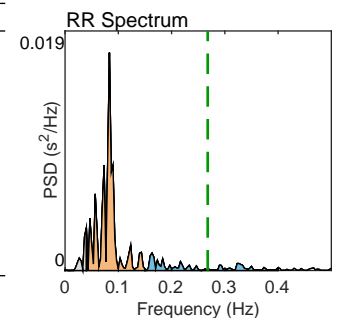
Nonlinear Results

Variable	Units	Value
Poincare Plot		
SD1	(ms)	9.9
SD2	(ms)	29.1
SD2/SD1		2.944
Approximate Entropy (ApEn)		1.219
Sample Entropy (SampEn)		1.510
Detrended Fluctutation Analysis (DFA)		
Short-term fluctuations, $\alpha 1$		1.529
Long-term fluctuations, $\alpha 2$		0.483
Correlation Dimension (D2)		0.259
Recurrence Plot Analysis (RPA)	(beats)	
Mean line length (Lmean)	(beats)	10.47
Max line length (Lmax)	(%)	319
Recurrence rate (REC)	(%)	30.81
Determinism (DET)		98.32
Shannon Entropy (ShanEn)		3.150
Multi-Scale Entropy (MSE)		0.596 - 2.124
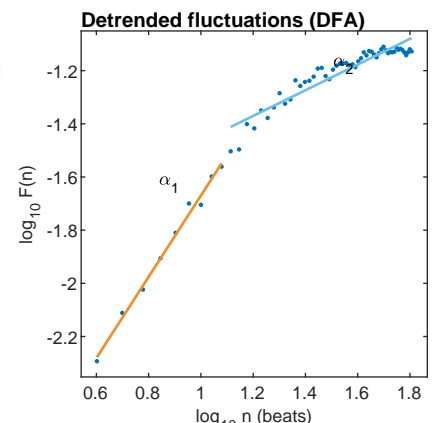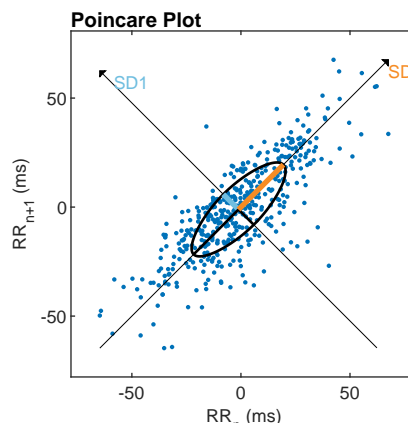
Poincare Plot

Detrended fluctuations (DFA)


*Results are calculated from the non-detrended selected RR series.

HRV Analysis - Standard Results

Person:				Measurement Info				Results for Sample 2/6	
Gender:	Male	Height:	180 cm	Date:		Trend removal:	Smoothn priors	Sample start:	00:05:00
Age:	49 years	Weight:	78 kg	Start time:	00:00:00	Artefact corr.:	Automatic correction	Sample length:	00:05:00
Max HR:	171 bpm	BMI:	24.1 kg/m2	Duration:	00:30:15	Analysis samples:	6	Beats corrected:	0 (0.00 %)

RR Time Series
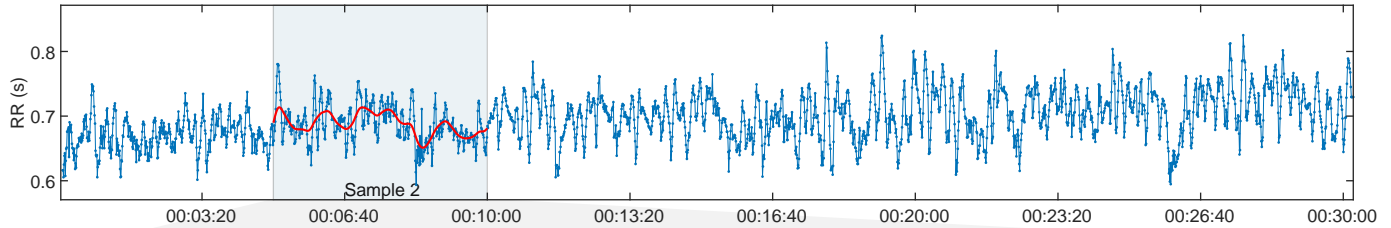
Selected Detrended RR Series
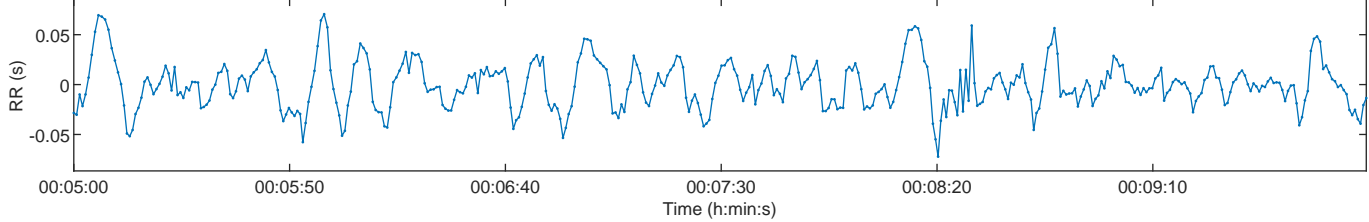
Autonomic nervous system indexes

Parasympathetic Nervous System (PNS)

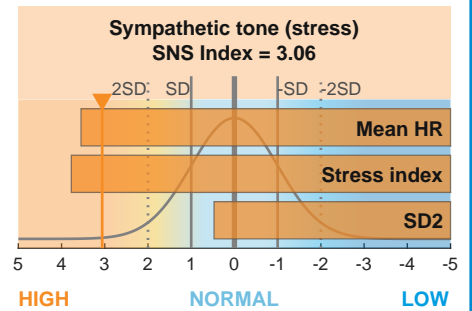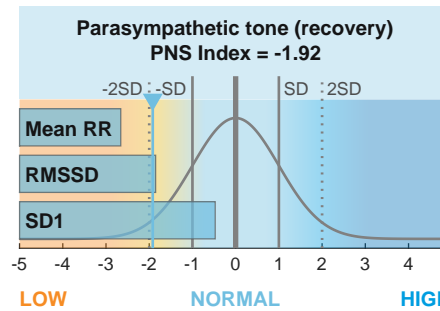| Mean RR	RMSSD	SD1
687 ms	**14.2** ms	**24.4** %

PNS Index = -1.92

Sympathetic Nervous System (SNS)

Mean HR	Stress index	SD2
87 bpm	**19.4**	**75.6** %

SNS Index = 3.06

Parasympathetic tone (recovery)
PNS Index = -1.92

	-2SD	-SD		SD	2SD	
Mean RR						
RMSSD						
SD1						

-5 -4 -3 -2 -1 0 1 2 3 4 5

LOW   NORMAL   HIGH

Sympathetic tone (stress)
SNS Index = 3.06

	2SD	SD		-SD	-2SD	
Mean HR						
Stress index						
SD2						

5 4 3 2 1 0 -1 -2 -3 -4 -5

HIGH   NORMAL   LOW

Time-Domain Results

Variable	Units	Value
Mean RR*	(ms)	687
Mean HR*	(bpm)	87
Min HR	(bpm)	78
Max HR	(bpm)	96
SDNN	(ms)	23.1
RMSSD	(ms)	14.2
NN50	(beats)	2
pNN50	(%)	0.46
RR triangular index		5.75
TINN	(ms)	113.0
Stress Index (SI)		19.4
DC	(ms)	10.1
DCmod	(ms)	14.0
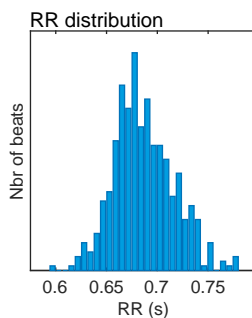
RR distribution

Frequency-Domain Results (FFT spectrum)

Variable	Units	VLF	LF	HF
Frequency band	(Hz)	0.00-0.04	0.04-0.15	0.15-0.40
Peak frequency	(Hz)	0.030	0.093	0.167
Power	(ms^2)	27	391	77
Power	(log)	3.300	5.969	4.348
Power	(%)	5.47	78.91	15.61
Power	(n.u.)		83.48	16.51

Total power	(ms^2)	495		
Total Power	(log)	6.205		
LF/HF ratio		5.055		
RESP	(Hz)	0.24		

RR Spectrum
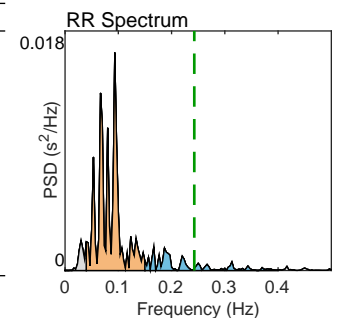
Nonlinear Results

Variable	Units	Value
Poincare Plot		
SD1	(ms)	10.1
SD2	(ms)	31.1
SD2/SD1		3.091
Approximate Entropy (ApEn)		1.135
Sample Entropy (SampEn)		1.376
Detrended Fluctutation Analysis (DFA)		
Short-term fluctuations, $\alpha 1$		1.557
Long-term fluctuations, $\alpha 2$		0.443
Correlation Dimension (D2)		0.324
Recurrence Plot Analysis (RPA)	(beats)	
Mean line length (Lmean)	(beats)	12.36
Max line length (Lmax)	(%)	205
Recurrence rate (REC)	(%)	34.02
Determinism (DET)		98.92
Shannon Entropy (ShanEn)		3.344
Multi-Scale Entropy (MSE)		0.482 - 1.844
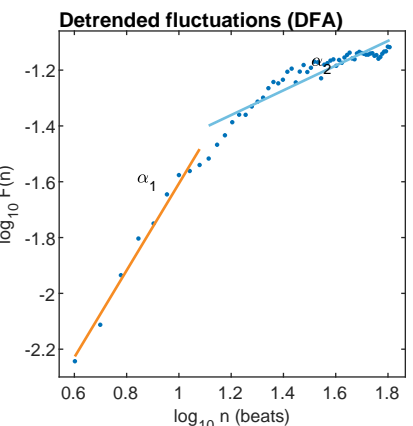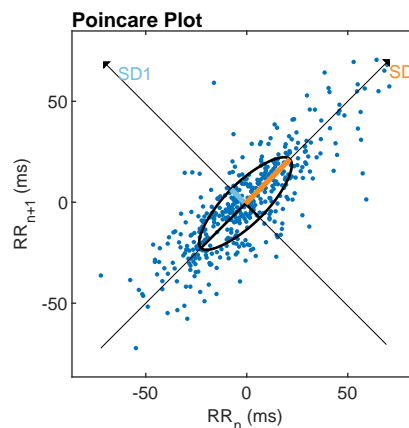
Poincare Plot

Detrended fluctuations (DFA)

*Results are calculated from the non-detrended selected RR series.

HRV Analysis - Standard Results

Person:				Measurement Info				Results for Sample 3/6	
Gender:	Male	Height:	180 cm	Date:		Trend removal:	Smoothn priors	Sample start:	00:10:00
Age:	49 years	Weight:	78 kg	Start time:	00:00:00	Artefact corr.:	Automatic correction	Sample length:	00:05:00
Max HR:	171 bpm	BMI:	24.1 kg/m2	Duration:	00:30:15	Analysis samples:	6	Beats corrected:	2 (0.47 %)

RR Time Series
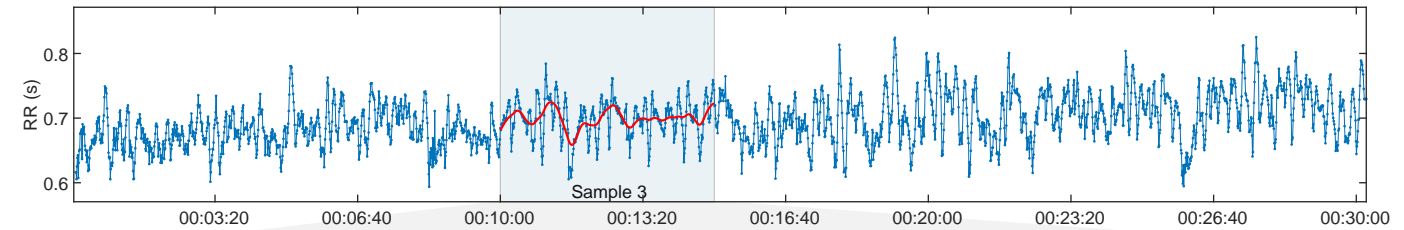
Selected Detrended RR Series
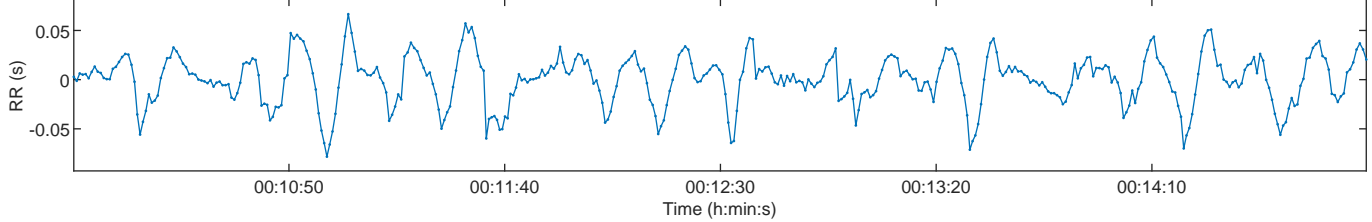
Autonomic nervous system indexes

Parasympathetic Nervous System (PNS)

Mean RR	RMSSD	SD1
698 ms	**12.6** ms	**20.6** %

PNS Index = -1.95

Sympathetic Nervous System (SNS)

Mean HR	Stress index	SD2
86 bpm	**16.2**	**79.4** %

SNS Index = 2.50

Parasympathetic tone (recovery) PNS Index = -1.95

Sympathetic tone (stress) SNS Index = 2.50
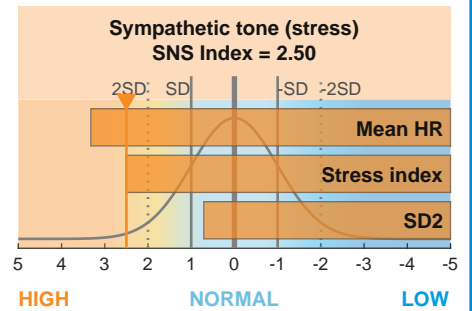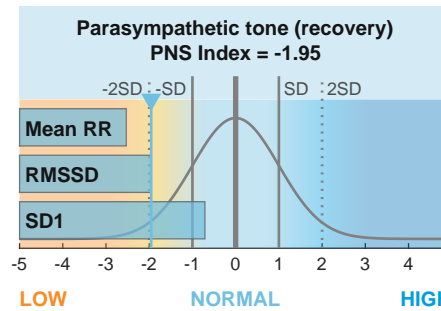
Time-Domain Results

Variable	Units	Value
Mean RR*	(ms)	698
Mean HR*	(bpm)	86
Min HR	(bpm)	79
Max HR	(bpm)	98
SDNN	(ms)	25.0
RMSSD	(ms)	12.6
NN50	(beats)	2
pNN50	(%)	0.47
RR triangular index		6.52
TINN	(ms)	117.0
Stress Index (SI)		16.2
DC	(ms)	9.2
DCmod	(ms)	10.9
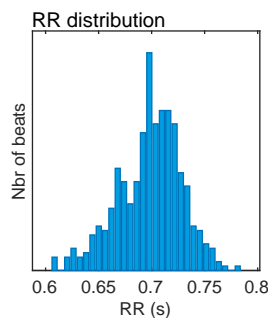
RR distribution

Frequency-Domain Results (FFT spectrum)

Variable	Units	VLF	LF	HF
Frequency band	(Hz)	0.00-0.04	0.04-0.15	0.15-0.40
Peak frequency	(Hz)	0.040	0.080	0.210
Power	(ms²)	38	453	47
Power	(log)	3.646	6.117	3.859
Power	(%)	7.11	84.09	8.79
Power	(n.u.)		90.52	9.46

Total power	(ms²)	539		
Total Power	(log)	6.290		
LF/HF ratio		9.564		
RESP	(Hz)	0.19		

RR Spectrum
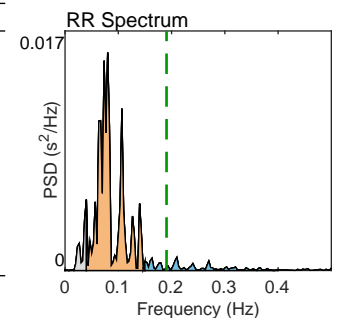
Nonlinear Results

Variable	Units	Value
Poincare Plot		
SD1	(ms)	8.9
SD2	(ms)	34.2
SD2/SD1		3.848
Approximate Entropy (ApEn)		1.048
Sample Entropy (SampEn)		1.072
Detrended Fluctutation Analysis (DFA)		
Short-term fluctuations, $\alpha1$		1.677
Long-term fluctuations, $\alpha2$		0.401
Correlation Dimension (D2)		0.623
Recurrence Plot Analysis (RPA)	(beats)	
Mean line length (Lmean)	(beats)	11.71
Max line length (Lmax)	(%)	292
Recurrence rate (REC)	(%)	34.74
Determinism (DET)		99.33
Shannon Entropy (ShanEn)		3.290
Multi-Scale Entropy (MSE)		0.554 - 2.035
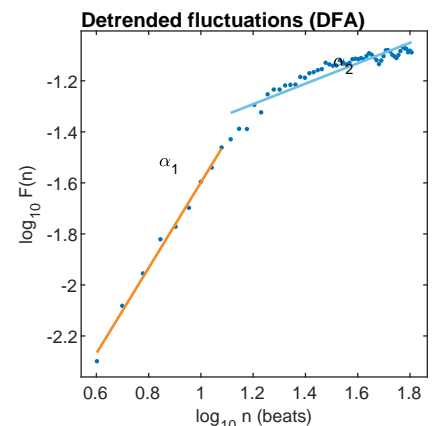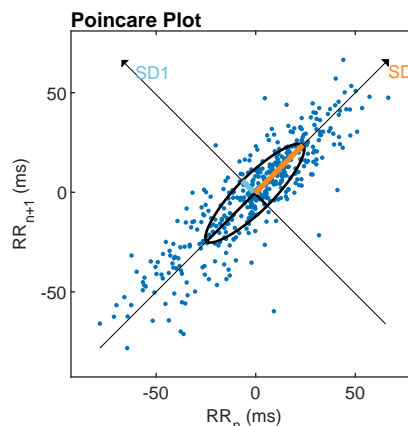
Poincare Plot

Detrended fluctuations (DFA)


*Results are calculated from the non-detrended selected RR series.

HRV Analysis - Standard Results

Person:				Measurement Info				Results for Sample 4/6	
Gender:	Male	Height:	180 cm	Date:		Trend removal:	Smoothn priors	Sample start:	00:15:00
Age:	49 years	Weight:	78 kg	Start time:	00:00:00	Artefact corr.:	Automatic correction	Sample length:	00:05:00
Max HR:	171 bpm	BMI:	24.1 kg/m2	Duration:	00:30:15	Analysis samples:	6	Beats corrected:	0 (0.00 %)

RR Time Series
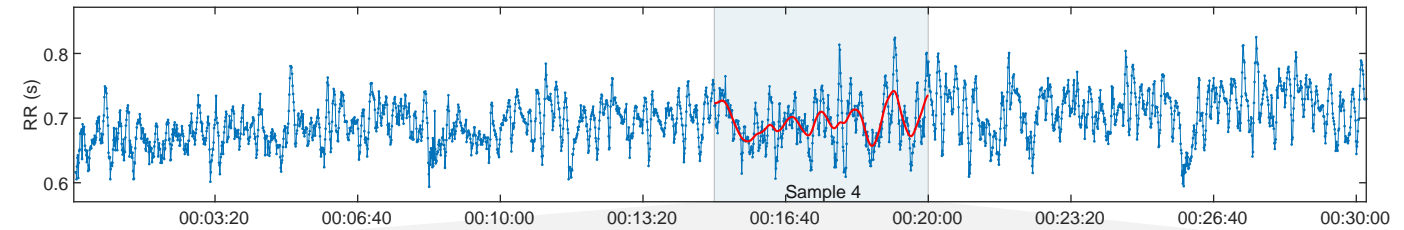
Selected Detrended RR Series
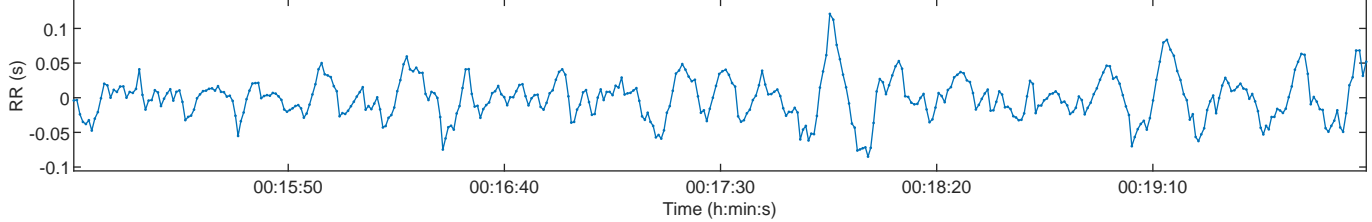
Autonomic nervous system indexes

Parasympathetic Nervous System (PNS)

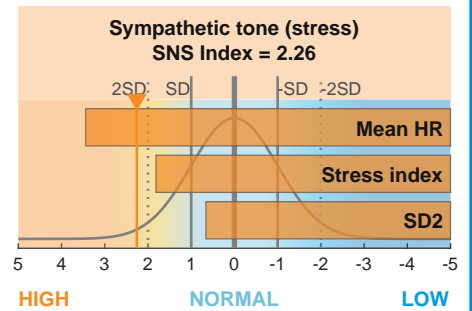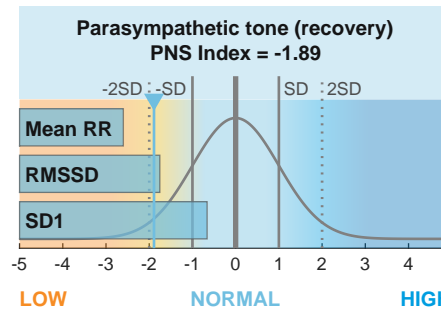| Mean RR	RMSSD	SD1
692 ms	**15.7** ms	**21.4** %

PNS Index = -1.89

Sympathetic Nervous System (SNS)

Mean HR	Stress index	SD2
87 bpm	**14.4**	**78.6** %

SNS Index = 2.26

Parasympathetic tone (recovery) PNS Index = -1.89

Sympathetic tone (stress) SNS Index = 2.26

Time-Domain Results

Variable	Units	Value
Mean RR*	(ms)	692
Mean HR*	(bpm)	87
Min HR	(bpm)	74
Max HR	(bpm)	97
SDNN	(ms)	29.8
RMSSD	(ms)	15.7
NN50	(beats)	1
pNN50	(%)	0.23
RR triangular index		6.66
TINN	(ms)	156.0
Stress Index (SI)		14.4
DC	(ms)	11.3
DCmod	(ms)	13.5
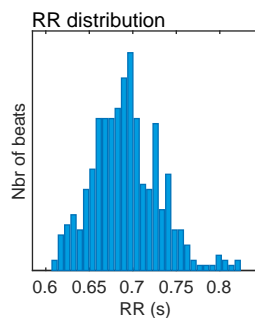
RR distribution

Frequency-Domain Results (FFT spectrum)

Variable	Units	VLF	LF	HF
Frequency band	(Hz)	0.00-0.04	0.04-0.15	0.15-0.40
Peak frequency	(Hz)	0.040	0.063	0.193
Power	(ms^2)	56	881	97
Power	(log)	4.019	6.781	4.570
Power	(%)	5.39	85.26	9.35
Power	(n.u.)		90.11	9.88

Total power	(ms^2)	1033		
Total Power	(log)	6.940		
LF/HF ratio		9.119		
RESP	(Hz)	0.21		

RR Spectrum
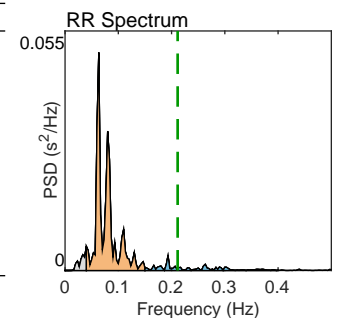
Nonlinear Results

Variable	Units	Value
Poincare Plot		
SD1	(ms)	11.1
SD2	(ms)	40.7
SD2/SD1		3.665
Approximate Entropy (ApEn)		1.135
Sample Entropy (SampEn)		1.275
Detrended Fluctutation Analysis (DFA)		
Short-term fluctuations, $\alpha1$		1.460
Long-term fluctuations, $\alpha2$		0.400
Correlation Dimension (D2)		0.639
Recurrence Plot Analysis (RPA)	(beats)	
Mean line length (Lmean)	(beats)	13.33
Max line length (Lmax)	(%)	246
Recurrence rate (REC)	(%)	37.17
Determinism (DET)		99.15
Shannon Entropy (ShanEn)		3.417
Multi-Scale Entropy (MSE)		0.609 - 2.205

Poincare Plot
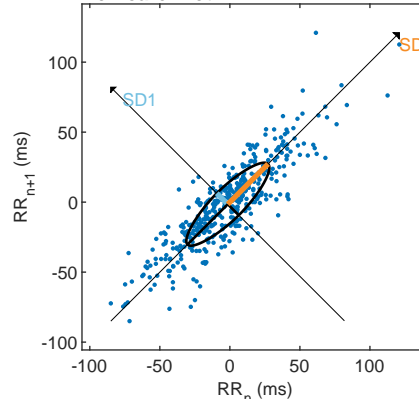
Detrended fluctuations (DFA)
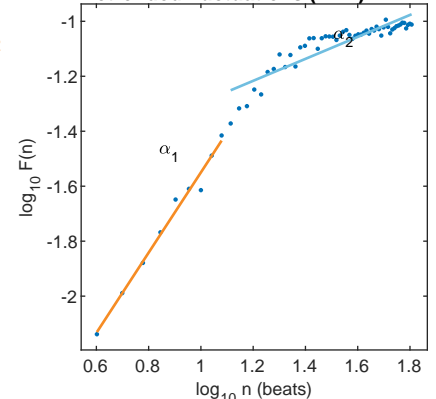

*Results are calculated from the non-detrended selected RR series.

HRV Analysis - Standard Results

Person:				Measurement Info				Results for Sample 5/6	
Gender:	Male	Height:	180 cm	Date:		Trend removal:	Smoothn priors	Sample start:	00:20:00
Age:	49 years	Weight:	78 kg	Start time:	00:00:00	Artefact corr.:	Automatic correction	Sample length:	00:05:00
Max HR:	171 bpm	BMI:	24.1 kg/m2	Duration:	00:30:15	Analysis samples:	6	Beats corrected:	1 (0.24 %)

RR Time Series
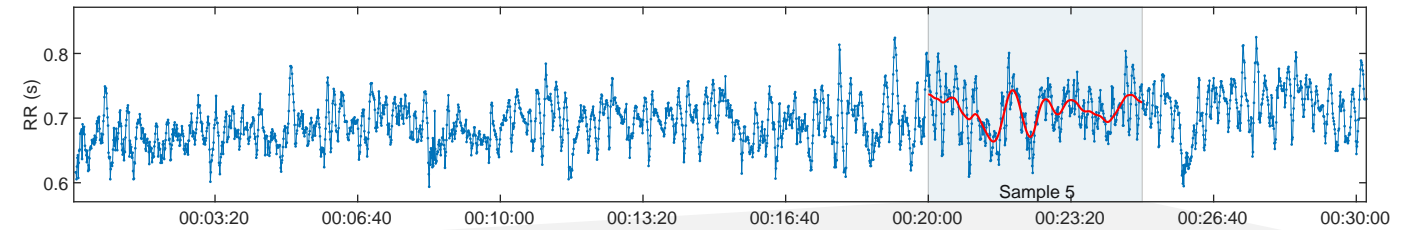
Selected Detrended RR Series
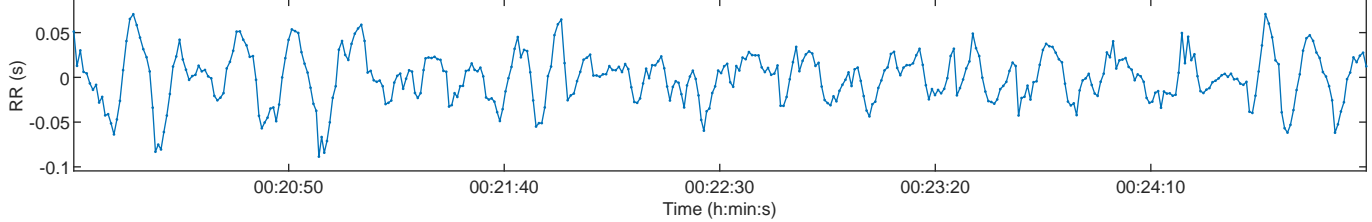
Autonomic nervous system indexes

Parasympathetic Nervous System (PNS)

Mean RR	RMSSD	SD1
710 ms	**16.1** ms	**23.1** %

PNS Index = -1.78

Sympathetic Nervous System (SNS)

Mean HR	Stress index	SD2
85 bpm	**15.7**	**76.9** %

SNS Index = 2.31

Parasympathetic tone (recovery) PNS Index = -1.78

Sympathetic tone (stress) SNS Index = 2.31
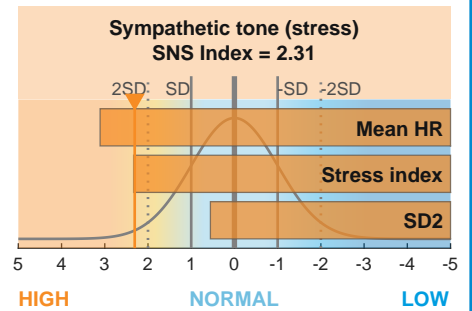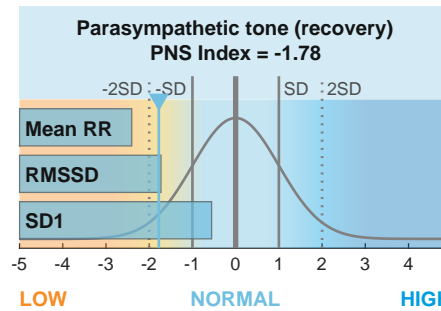
Time-Domain Results

Variable	Units	Value
Mean RR*	(ms)	710
Mean HR*	(bpm)	85
Min HR	(bpm)	76
Max HR	(bpm)	96
SDNN	(ms)	28.1
RMSSD	(ms)	16.1
NN50	(beats)	4
pNN50	(%)	0.95
RR triangular index		7.85
TINN	(ms)	135.0
Stress Index (SI)		15.7
DC	(ms)	10.1
DCmod	(ms)	14.2
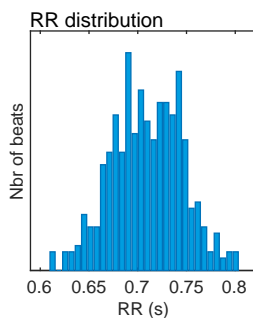
RR distribution

Frequency-Domain Results (FFT spectrum)

Variable	Units	VLF	LF	HF
Frequency band	(Hz)	0.00-0.04	0.04-0.15	0.15-0.40
Peak frequency	(Hz)	0.023	0.057	0.153
Power	(ms^2)	55	358	85
Power	(log)	4.005	5.879	4.444
Power	(%)	11.03	71.86	17.11
Power	(n.u.)		80.77	19.23

Total power	(ms^2)	498		
Total Power	(log)	6.210		
LF/HF ratio		4.200		
RESP	(Hz)	0.24		

RR Spectrum
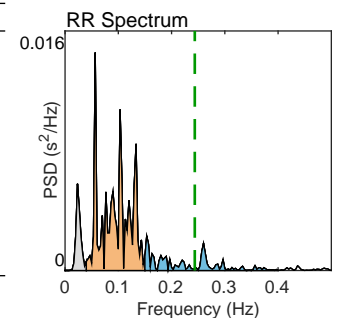
Nonlinear Results

Variable	Units	Value
Poincare Plot		
SD1	(ms)	11.4
SD2	(ms)	38.0
SD2/SD1		3.329
Approximate Entropy (ApEn)		1.141
Sample Entropy (SampEn)		1.364
Detrended Fluctutation Analysis (DFA)		
Short-term fluctuations, $\alpha1$		1.593
Long-term fluctuations, $\alpha2$		0.380
Correlation Dimension (D2)		0.607
Recurrence Plot Analysis (RPA)	(beats)	
Mean line length (Lmean)	(beats)	10.99
Max line length (Lmax)	(%)	414
Recurrence rate (REC)	(%)	32.83
Determinism (DET)		98.89
Shannon Entropy (ShanEn)		3.212
Multi-Scale Entropy (MSE)		0.629 - 2.268
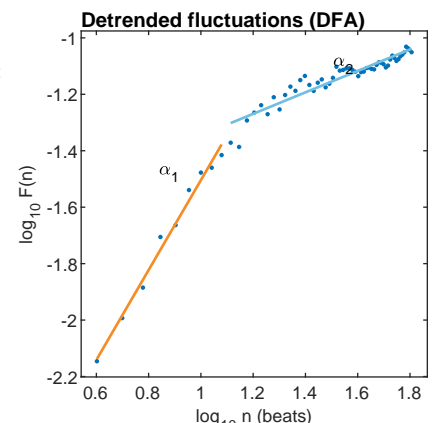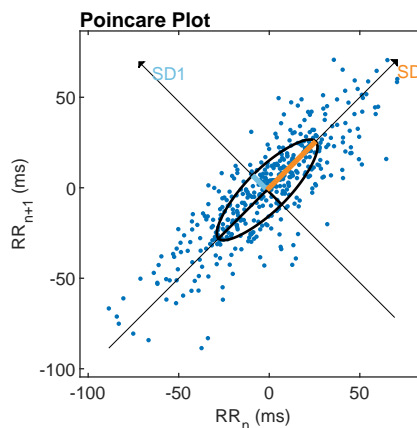
Poincare Plot

Detrended fluctuations (DFA)

*Results are calculated from the non-detrended selected RR series.

Person:				Measurement Info				Results for Sample 6/6	
Gender:	Male	Height:	180 cm	Date:		Trend removal:	Smoothn priors	Sample start:	00:25:01
Age:	49 years	Weight:	78 kg	Start time:	00:00:00	Artefact corr.:	Automatic correction	Sample length:	00:05:00
Max HR:	171 bpm	BMI:	24.1 kg/m2	Duration:	00:30:15	Analysis samples:	6	Beats corrected:	2 (0.48 %)

RR Time Series
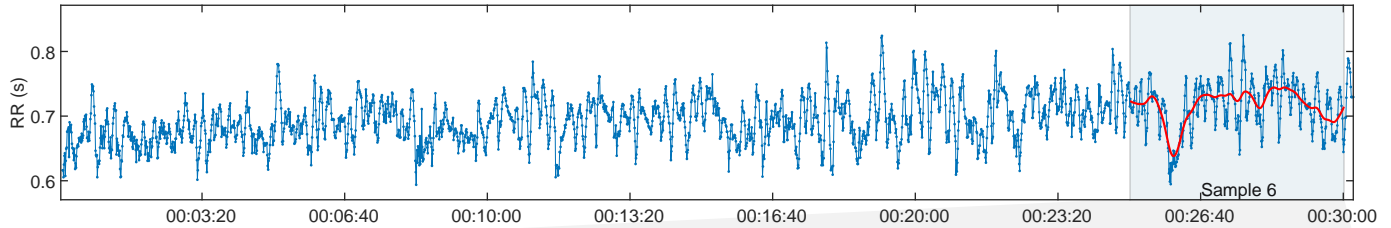
Selected Detrended RR Series
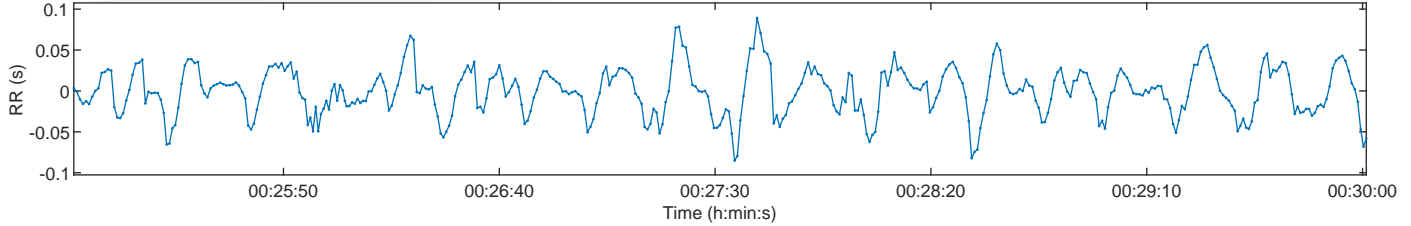
Autonomic nervous system indexes

Parasympathetic Nervous System (PNS)

Mean RR	RMSSD	SD1
714 ms	**15.7** ms	**22.2** %

PNS Index = -1.78

Sympathetic Nervous System (SNS)

Mean HR	Stress index	SD2
84 bpm	**15.6**	**77.8** %

SNS Index = 2.28

Parasympathetic tone (recovery) PNS Index = -1.78

Sympathetic tone (stress) SNS Index = 2.28
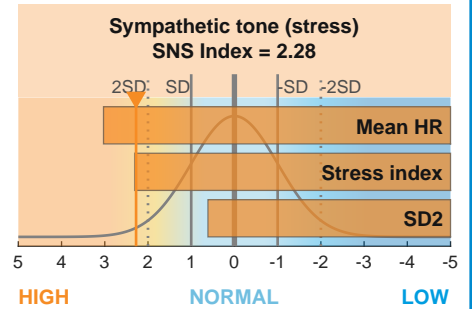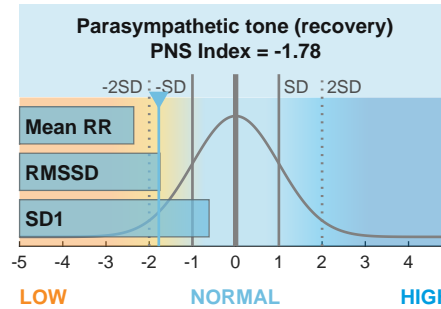
Time-Domain Results

Variable	Units	Value
Mean RR*	(ms)	714
Mean HR*	(bpm)	84
Min HR	(bpm)	75
Max HR	(bpm)	98
SDNN	(ms)	28.8
RMSSD	(ms)	15.7
NN50	(beats)	4
pNN50	(%)	0.95
RR triangular index		7.80
TINN	(ms)	140.0
Stress Index (SI)		15.6
DC	(ms)	12.2
DCmod	(ms)	14.6
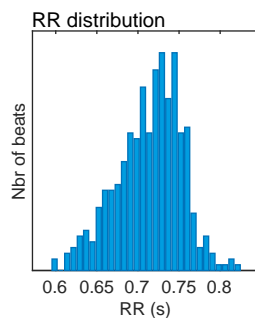
RR distribution

Frequency-Domain Results (FFT spectrum)

Variable	Units	VLF	LF	HF
Frequency band	(Hz)	0.00-0.04	0.04-0.15	0.15-0.40
Peak frequency	(Hz)	0.033	0.063	0.160
Power	(ms^2)	55	822	111
Power	(log)	4.014	6.712	4.706
Power	(%)	5.60	83.19	11.20
Power	(n.u.)		88.13	11.86

Total power	(ms^2)	988		
Total Power	(log)	6.896		
LF/HF ratio		7.431		
RESP	(Hz)	0.25		

RR Spectrum
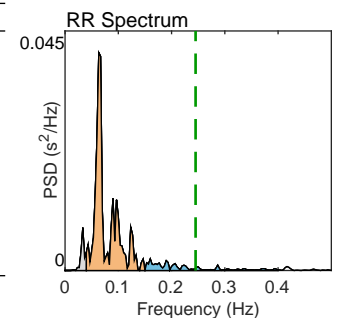
Nonlinear Results

Variable	Units	Value
Poincare Plot		
SD1	(ms)	11.1
SD2	(ms)	39.1
SD2/SD1		3.509
Approximate Entropy (ApEn)		1.043
Sample Entropy (SampEn)		1.188
Detrended Fluctutation Analysis (DFA)		
Short-term fluctuations, $\alpha1$		1.538
Long-term fluctuations, $\alpha2$		0.419
Correlation Dimension (D2)		0.905
Recurrence Plot Analysis (RPA)	(beats)	
Mean line length (Lmean)	(beats)	10.49
Max line length (Lmax)	(%)	219
Recurrence rate (REC)	(%)	31.30
Determinism (DET)		98.93
Shannon Entropy (ShanEn)		3.159
Multi-Scale Entropy (MSE)		0.890 - 2.282

Poincare Plot

Detrended fluctuations (DFA)
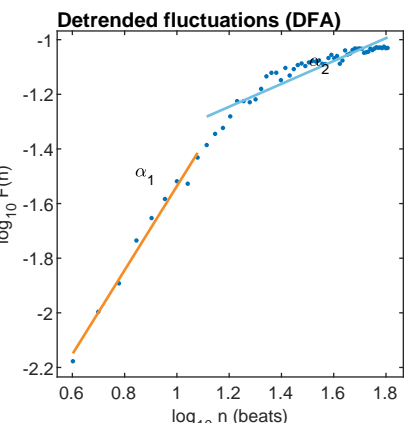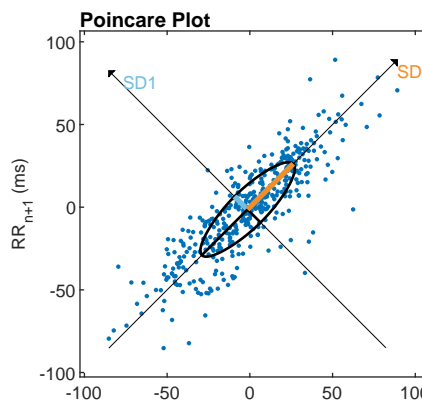
*Results are calculated from the non-detrended selected RR series.

HRV Analysis - Time-Varying Results

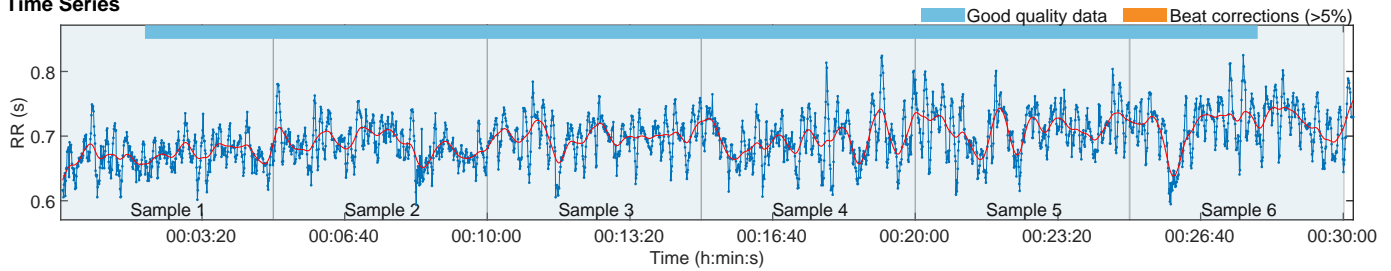| Person:				Measurement Info		Trend removal:	Smoothn priors	Results for the whole measurement	
Gender:	Male	Height:	180 cm	Date:		Sample start:		00:02:30	
Age:	49 years	Weight:	78 kg	Start time:	00:00:00	Artefact corr.:	Automatic correction	Sample length:	00:25:00
Max HR:	171 bpm	BMI:	24.1 kg/m2	Duration:	00:30:15	Analysis samples:	6	Beats corrected:	11 (0.42 %)

RR Time Series

Good quality data   Beat corrections (>5%)

Kubios HRV - Time-Varying Results

HR
AVG 87 bpm
Min 74 bpm
Max 98 bpm

PNS Index   SNS Index

Time-varying spectrum [s²/Hz x 10⁻³].

HR	0%	50%	100%		PNS	0%	50%	100%		SNS	0%	50%	100%	
MAXIMUM				00:00:00	VERY LOW				00:00:00	VERY HIGH				00:29:00
HARD				00:00:00	LOW				00:30:10	HIGH				00:01:10
MODERATE				00:00:00	NORMAL				00:00:00	NORMAL				00:00:00
LIGHT				00:00:00	HIGH				00:00:00	LOW				00:00:00
VERY LIGHT				00:17:14	VERY HIGH				00:00:00	VERY LOW				00:00:00
INACTIVE				00:12:56										

PNS Index
AVG -1.88
Min -2.00
Max -1.73

SNS Index
AVG 2.58
Min 1.93
Max 3.38

Energy Expenditure
126 / 161 kcal

BMR   Activity

Optional Time-Varying Parameters*

AVG 4.85   MIN 3.92   MAX 5.61   AVG 67.1   MIN 5.17   MAX 126

AVG 4.29   MIN 3.67   MAX 4.78   AVG 1.3   MIN 1.07   MAX 1.51

*Window width = 300 s and window shift = 60 s