

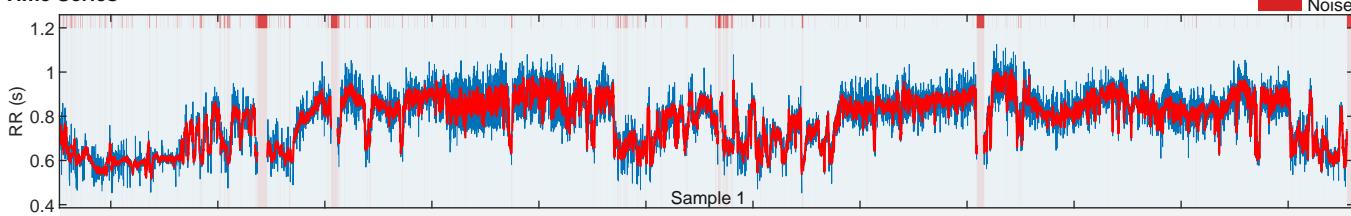
# HRV Analysis - Standard Results

Pre001A\_merged.csv - 25/09/2021 - 11:04:54

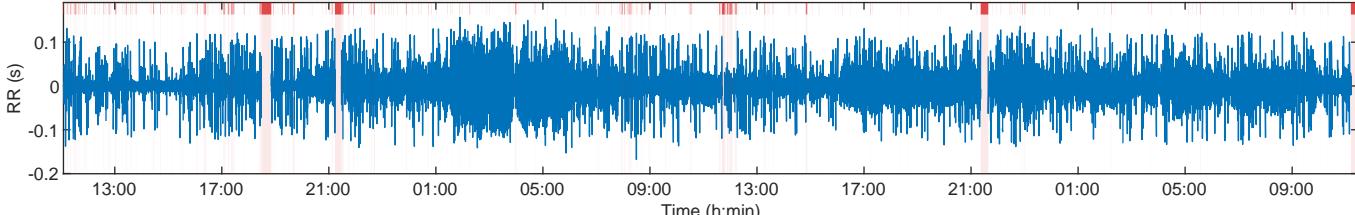
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| Person: |          |         |                        | Measurement Info |            |                   |                    | Results for Sample 1/1 |               |  |
|---------|----------|---------|------------------------|------------------|------------|-------------------|--------------------|------------------------|---------------|--|
| Gender: | Female   | Height: | 149 cm                 | Date:            | 25/09/2021 | Trend removal:    | Smoothn priors     | Sample start:          | 11:04:54      |  |
| Age:    | 70 years | Weight: | 73 kg                  | Start time:      | 11:04:54   | Artefact corr.:   | Threshold (strong) | Sample length:         | 48:23:13      |  |
| Max HR: | 147 bpm  | BMI:    | 32.9 kg/m <sup>2</sup> | Duration:        | 48:23:13   | Analysis samples: | 1                  | Beats corrected:       | 4022 (1.89 %) |  |

## RR Time Series



## Selected Detrended RR Series



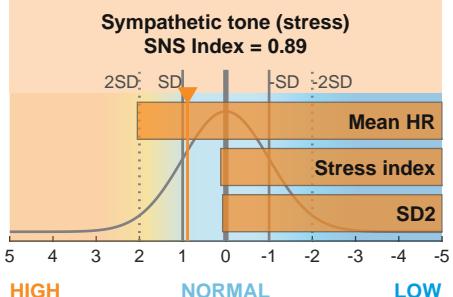
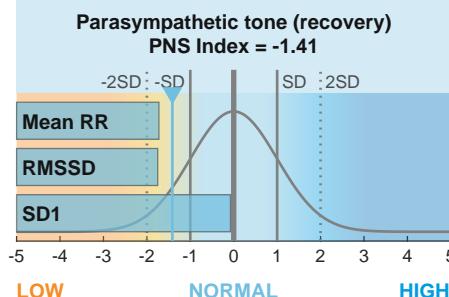
## Autonomic nervous system indexes

| Parasympathetic Nervous System (PNS) |         |       |
|--------------------------------------|---------|-------|
| Mean RR                              | RMSD    | SD1   |
| 771 ms                               | 15.7 ms | 30.8% |

PNS Index = -1.41

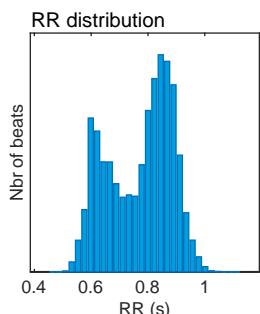
| Sympathetic Nervous System (SNS) |              |       |
|----------------------------------|--------------|-------|
| Mean HR                          | Stress index | SD2   |
| 78 bpm                           | 10.0         | 69.2% |

SNS Index = 0.89



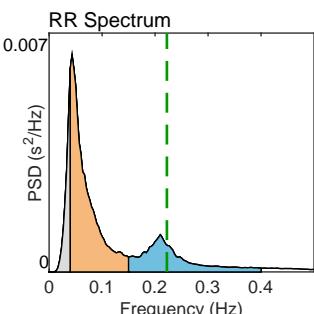
## Time-Domain Results

| Variable            | Units   | Value |
|---------------------|---------|-------|
| Mean RR*            | (ms)    | 771   |
| Mean HR*            | (bpm)   | 78    |
| Min HR              | (bpm)   | 57    |
| Max HR              | (bpm)   | 117   |
| SDNN                | (ms)    | 19.4  |
| RMSD                | (ms)    | 15.7  |
| NN50                | (beats) | 2422  |
| pNN50               | (%)     | 1.14  |
| RR triangular index |         | 3.63  |
| TINN                | (ms)    | 219.0 |
| Stress Index (SI)   |         | 10.0  |
| DC                  | (ms)    | 10.5  |
| DCmod               | (ms)    | 12.5  |



## Frequency-Domain Results (FFT spectrum)

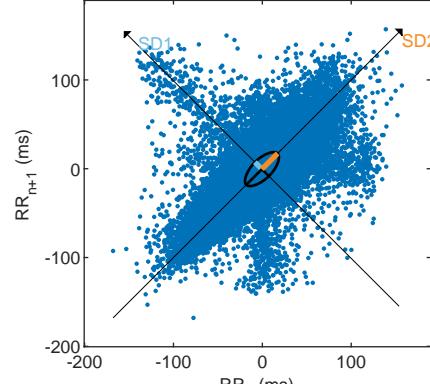
| Variable       | Units              | VLF       | LF        | HF        |
|----------------|--------------------|-----------|-----------|-----------|
| Frequency band | (Hz)               | 0.00-0.04 | 0.04-0.15 | 0.15-0.40 |
| Peak frequency | (Hz)               | 0.040     | 0.043     | 0.210     |
| Power          | (ms <sup>2</sup> ) | 53        | 226       | 95        |
| Power          | (log)              | 3.964     | 5.420     | 4.555     |
| Power          | (%)                | 14.09     | 60.44     | 25.44     |
| Power          | (n.u.)             | 70.35     | 29.61     |           |
| -----          |                    |           |           |           |
| Total power    | (ms <sup>2</sup> ) | 374       |           |           |
| Total Power    | (log)              | 5.924     |           |           |
| LF/HF ratio    |                    | 2.376     |           |           |
| RESP           | (Hz)               | 0.22      |           |           |



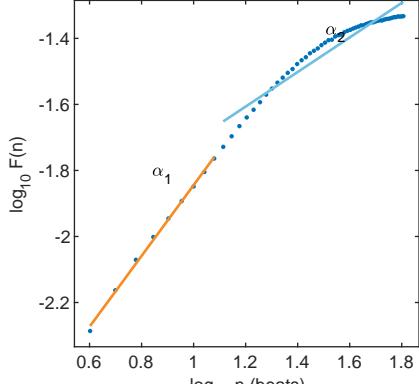
## Nonlinear Results

| Variable                             | Units   | Value         |
|--------------------------------------|---------|---------------|
| Poincare Plot                        |         |               |
| SD1                                  | (ms)    | 11.1          |
| SD2                                  | (ms)    | 25.0          |
| SD2/SD1                              |         | 2.246         |
| Approximate Entropy (ApEn)           |         | 1.346         |
| Sample Entropy (SampEn)              |         | 1.408         |
| Detrended Fluctuation Analysis (DFA) |         |               |
| Short-term fluctuations, $\alpha_1$  |         | 1.072         |
| Long-term fluctuations, $\alpha_2$   |         | 0.523         |
| Correlation Dimension (D2)           |         | 0.282         |
| Recurrence Plot Analysis (RPA)       | (beats) |               |
| Mean line length (Lmean)             | (beats) | 14.49         |
| Max line length (Lmax)               | (%)     | 330           |
| Recurrence rate (REC)                | (%)     | 41.90         |
| Determinism (DET)                    |         | 98.60         |
| Shannon Entropy (ShanEn)             |         | 3.405         |
| Multi-Scale Entropy (MSE)            |         | 0.596 - 1.611 |

## Poincare Plot



## Detrended fluctuations (DFA)

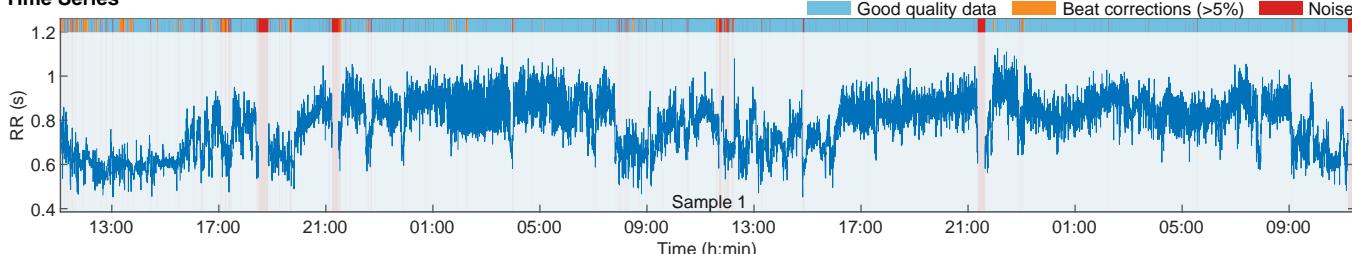


\*Results are calculated from the non-detrended selected RR series.

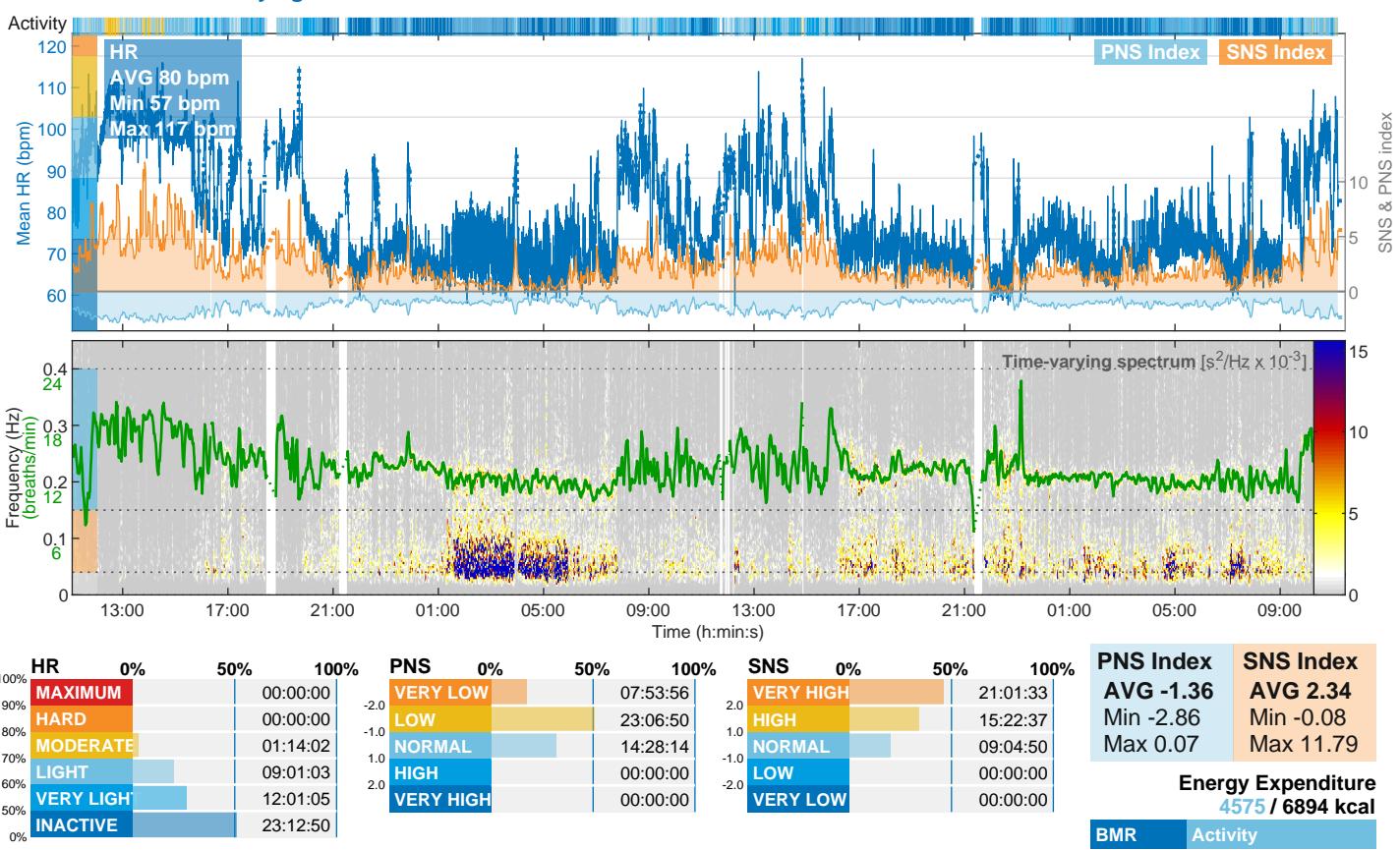
# HRV Analysis - Time-Varying Results

| Person: |          |         |                        | Measurement Info |            |                   | Results for the whole measurement |                  |               |
|---------|----------|---------|------------------------|------------------|------------|-------------------|-----------------------------------|------------------|---------------|
| Gender: | Female   | Height: | 149 cm                 | Date:            | 25/09/2021 | Trend removal:    | Smoothn priors                    | Sample start:    | 11:07:24      |
| Age:    | 70 years | Weight: | 73 kg                  | Start time:      | 11:04:54   | Artefact corr.:   | Threshold (strong)                | Sample length:   | 48:18:00      |
| Max HR: | 147 bpm  | BMI:    | 32.9 kg/m <sup>2</sup> | Duration:        | 48:23:13   | Analysis samples: | 1                                 | Beats corrected: | 4022 (1.89 %) |

## RR Time Series



## Kubios HRV - Time-Varying Results



## Optional Time-Varying Parameters\*

