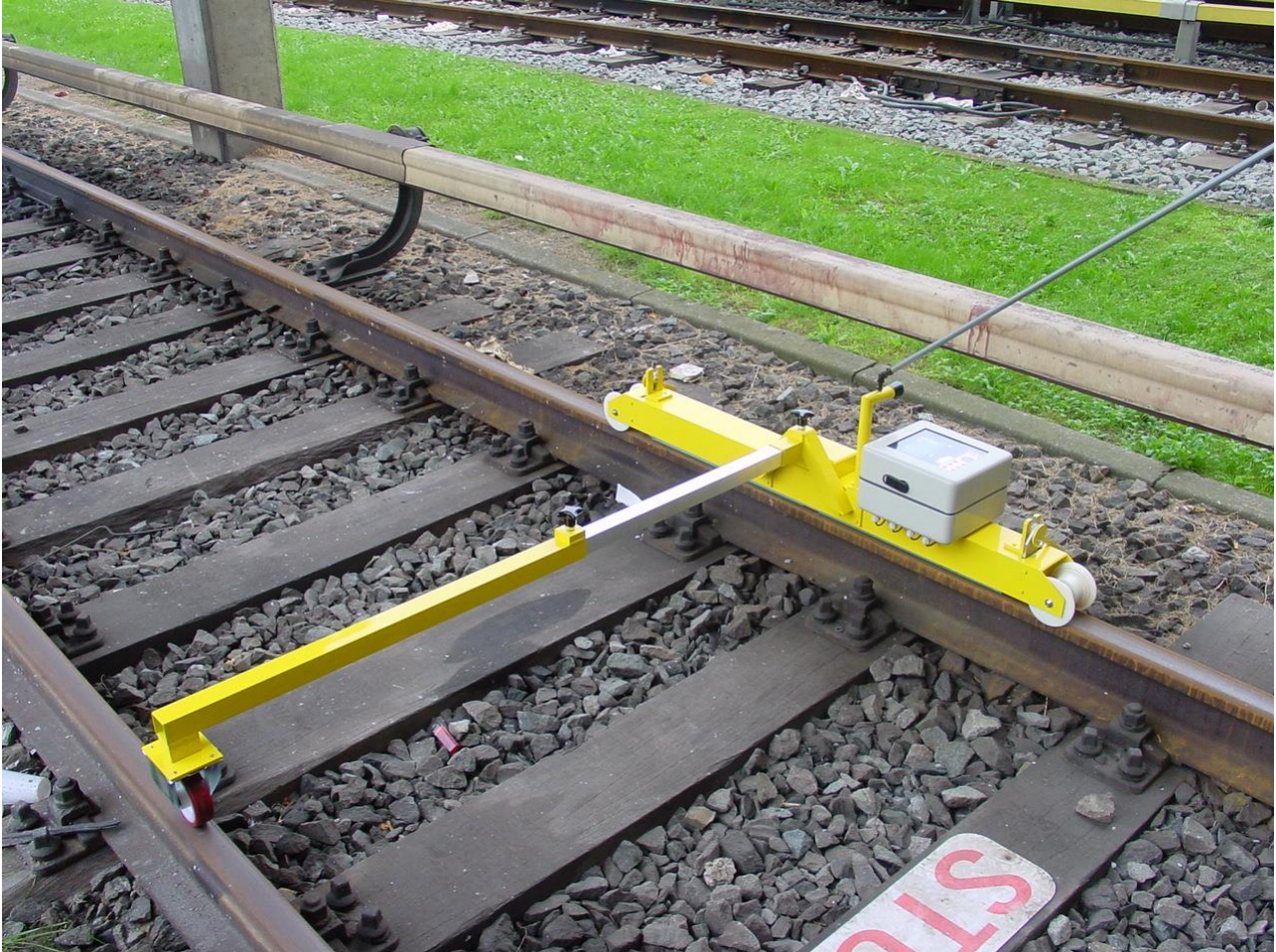


### APT-RSA - RAIL SURFACE ANALYSER



*APT-RSA on UIC54 rails*

#### APPLICATION

- Rail roughness quantification.
- Rail corrugation quantification.
- Grinding quality testing.
- Noise measurements and predictions.

#### FEATURES

- Measures railhead vertical variation relative to a sliding reference with a length of 1 m as function of distance.
- Complies with ISO 3095: 2013 (E).
- Complies with EN 13231-3:2012.
- Unlimited measurement distance.
- Lightweight, self-contained guidance on track.

#### Contact

APT

[www.aptrail.com](http://www.aptrail.com)

Jules Vandenbemptlaan 71  
3001 Heverlee  
Belgium

E-mail [info@aptrail.com](mailto:info@aptrail.com)

T. +32-(0)16-23 20 40  
F. +32-(0)16-23 89 10

### SPECIFICATIONS

#### Measurement transducers

- Dynamic range:  $\pm 2000 \mu\text{m}$
- Transducer type: displacement (LVDT)
- Number of transducers: 3 (independently positioned over the rail head)
- Measurement noise floor:  $0.6 \mu\text{m}$
- Encoder for position determination 128 pulses per rotation

#### Data processing

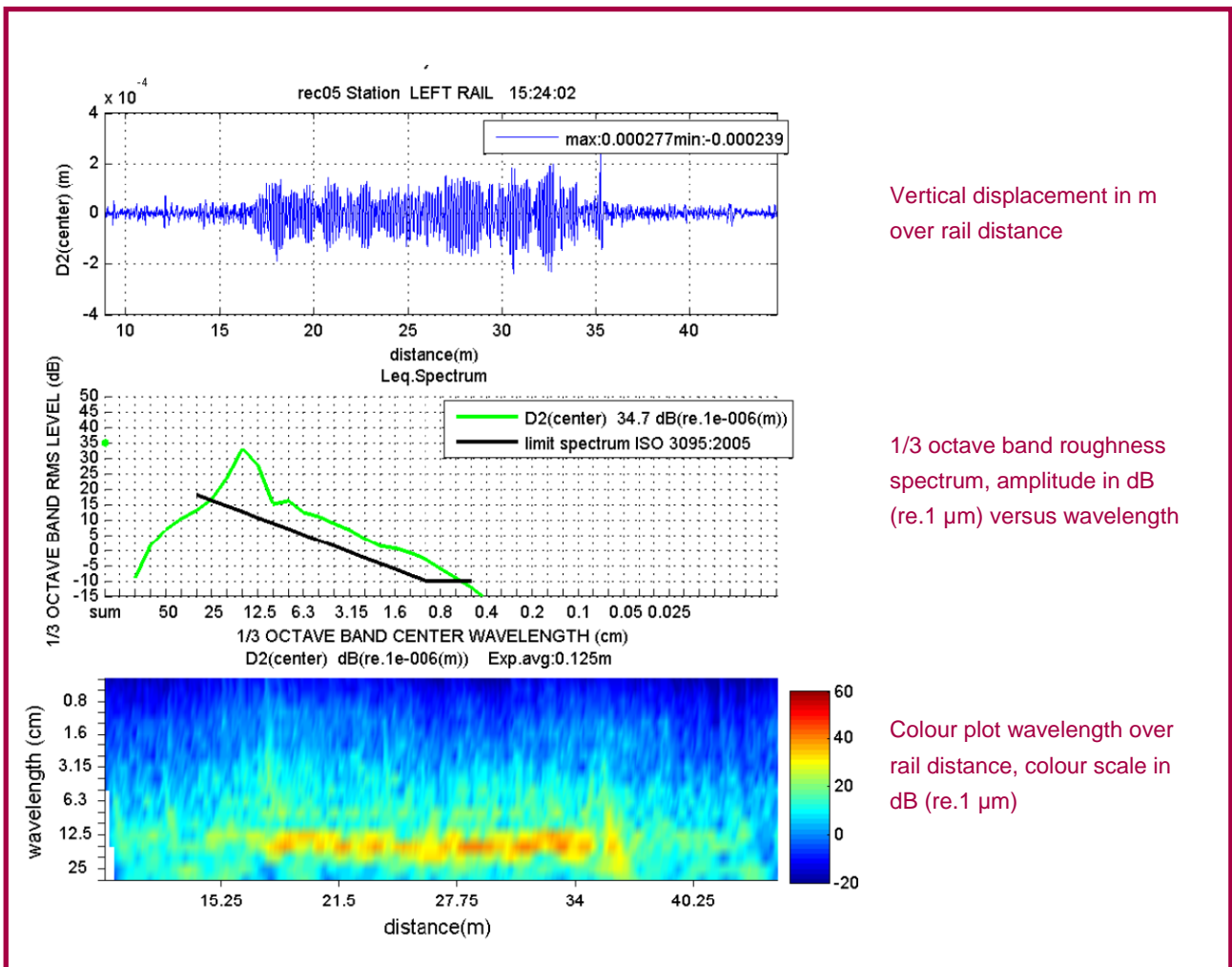
- Flexible software allowing data output in various forms
- Roughness spectra in:
  - 1/3 octave bands
  - narrow band
  - PSD
- Colour maps
- RMS level versus distance, ...

#### Data acquisition

- Recording device: 4 channel – 16 bit A/D converter
- Resampling in post-processing at 1000 samples per meter
- Data storage: 4 Gigabyte USB memory stick
- 6 hours of measurements

#### Transportation

Flight case: dimensions: 0.4 x 0.4 x 1.2 m  
weight: < 20 kg



Vertical displacement in m over rail distance

1/3 octave band roughness spectrum, amplitude in dB (re.  $1 \mu\text{m}$ ) versus wavelength

Colour plot wavelength over rail distance, colour scale in dB (re.  $1 \mu\text{m}$ )