



Field Integration: supporting and enabling the validation and practical application of the fundamental research results

EPSRC

PROGRAMME GRANT EP/H044949/1 ~ WWW.TRACK21.ORG.UK

TRACK 21
Railway Track for the 21st Century

Field integration strategy

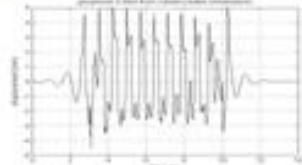


Straightforward
identification and
assessment

Using models and
measurements
identify effective
remedial work

Carryout remedial
work

Assess (measure)
the effectiveness
of remedial work



ISG on 23rd August 2012

What we aim to achieve....

1. Prototype monitoring systems (on-train and trackside) suitable for in-service application
2. Initial algorithms (based on fundamental modelling and monitoring) to detect and diagnose short and long wavelength defects
3. Detailed degradation monitoring at specific locations from in-service systems (regular intervals, seasonal)
4. An approach for local (total) dynamic track stiffness (differential) measurement
5. A strategy, and case studies, that evaluate different remediation work performance, and help to feed into improved remedial action decision making
6. Integration with: (i) existing and advanced data stream (e.g. GPR); (ii) engineering modelling (validation); and (iii) life-cycle modelling research (business case)

EPSRC

PROGRAMME GRANT EP/H044949/1 - WWW.TRACK21.ORG.UK

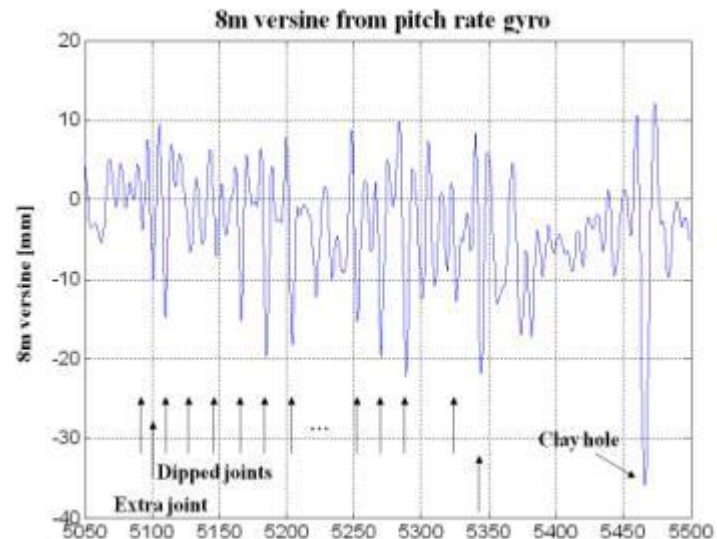
TRACK 21

EPSRC

PROGRAMME GRANT EP/H044949/1 - WWW.TRACK21.ORG.UK

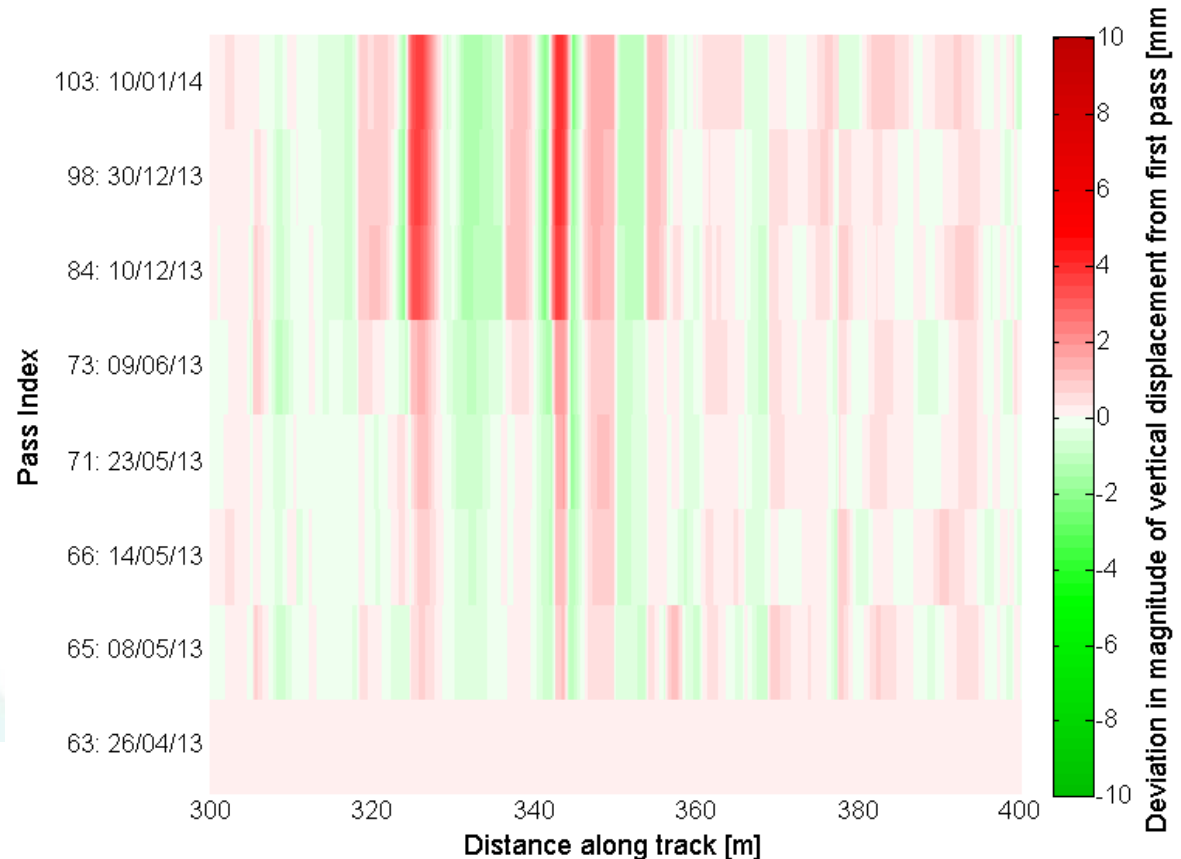
TRACK 21

1. Prototype monitoring systems (on-train and trackside) suitable for in-service application – *done*
2. Initial algorithms (based on fundamental modelling and monitoring) to detect and diagnose short and long wavelength defects – *done (although more to do)*

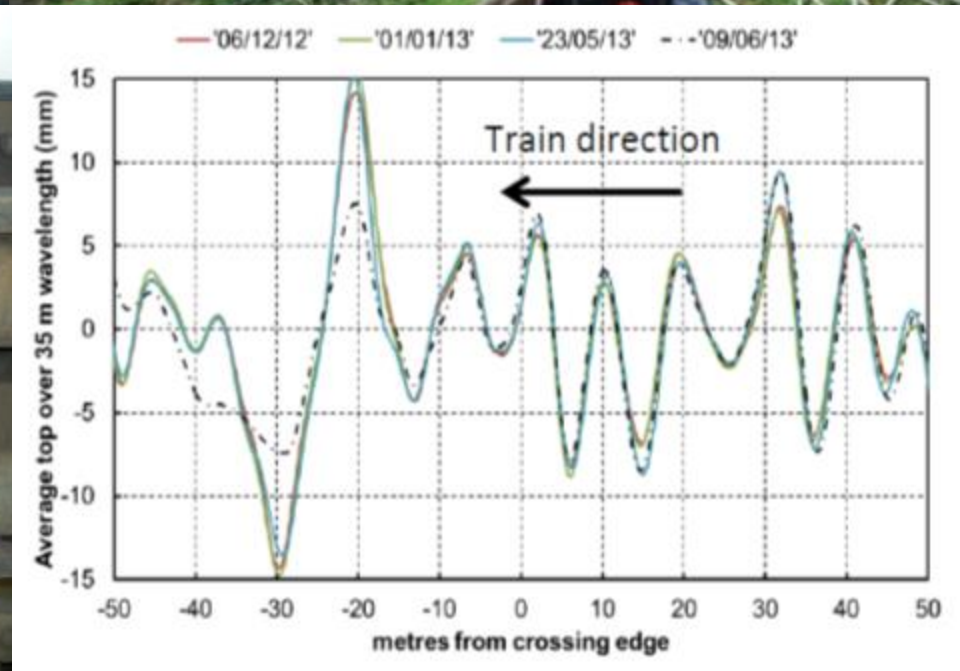


3. Detailed degradation monitoring at specific locations from in-service systems (regular intervals, seasonal) – *done, although more work needed*

Red shows degrading sections



4. An approach for local (total) dynamic track stiffness (differential) measurement – *initial work in progress (concept to be developed)*
5. A strategy, and case studies, that evaluate different remediation work performance, and help to feed into improved remedial action decision making – *done (Black Boy Lane). Further sites to be developed in conjunction with Andrew Cornish at NR. Also opportunities in Wessex*



6. Integration with: (i) existing and advanced data stream (e.g. GPR); (ii) engineering modelling (validation); and (iii) life-cycle modelling research (business case)

- Liaison with WA6 ongoing. Data to be integrated around specific sites.