

Conclusions of track mitigation measures – WP3

→ USP in ballasted track:

- positive IL for frequencies above 50Hz (up to 15 dB)
- Below 50Hz, soft USP should have an effect on the parametric excitation
- No real advantage of very soft USP compared to medium soft USP
- Advantage of wide sleepers
- Could be used in curves, without problem concerning the stability of track

→ USP in GETRAC system (slab track):

- positive IL for frequencies above 50Hz (up to 15 dB)

→ Very soft railpads / optimized fastening system:

- positive IL (up to 12dB) for frequencies above 50Hz
- Below, very soft railpads should have an effect on the parametric excitation
- Very soft railpads should reduce the wheel-rail contact force, reducing the defect growth

→ Turnout:

- Identification of sources that contribute the most is compulsory before proposing mitigation solution(s)
- 2 main phenomena observed until now: impact load at the crossing panel and track stiffness variation along the turnout
- Reduction of impact load at the crossing panel: very soft railpads
- Reduction of track stiffness variation? USP installation does not seem to improve the situation
- Global reduction with mitigation measures on the propagation path