



Sweco_7



Thesis

Mass-Spring Systems in Railway Tracks

Background

Structure-borne noise and vibration are emissions from underground rail traffic causing discomfort or even health risks for those affected. In order to avoid these, strict regulation applies for the levels of these emissions. Underground rail traffic can be a serious contributor and in urban areas, the attenuation of vibrations and structure-borne noises are often necessary. The most effective way to achieve damping is the application of mass-spring systems.

Aim and expected results

The aim of the thesis is to review international literature and applications and create a generic calculation model applicable to calculate structure-borne noise attenuation for different conditions and components.

Being able to use a calculation model for mass-spring systems. The model does not need to be complicated, the exact calculations are always done by manufacturers, who know the detailed properties of their components, but the model could be used in order to judge if their results are reasonable.

The thesis is meant for one person.

Company

Sweco plans and designs the communities and cities of the future. The results of our work are sustainable buildings, efficient infrastructure and access to clean water. With 15,000 employees in Northern Europe, we offer our customers the right expertise for every project. We carry out projects in 70 countries annually throughout the world. Sweco is Europe's leading architecture and engineering consultancy, with sales of approximately SEK 16.9 billion (EUR 1.8 billion). The company is listed on NASDAQ OMX Stockholm AB.

Sweco Rail collects Sweco's rail technology skills in track, electricity, signal and telecommunications. We provide design, design and specialist services - of all the components and technologies involved - for planning, construction, operation and maintenance of railroad traffic facilities.

Application

- *Period:* Spring or autumn 2019
- *Scope:* 30 hp
- *Latest application:* 2018-12-01

Send your application to utvecklarail@sweco.se enter "Exjobb – Mass-Spring Systems in Railway Tracks" in the subject line.

Contact details

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Examensarbeten och Master's Thesis inom järnväg är möjliga att genomföra på valfri högskola eller universitet. Gillar du något att uppslagen? Gör så här:

- 1) Identifiera en lämplig handledare på din högskola/ ditt universitet som vill ta sig an dig och ditt valda ämne.
- 2) Hör sedan dig till kontaktpersonen på företaget som ligger bakom uppsatsförslaget.

Välkommen till en bransch under stark utveckling där hållbarhet och samhällsbyggnad står i fokus.

Om du är student på KTH; möjlig handledare

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