KONTAKT 2010
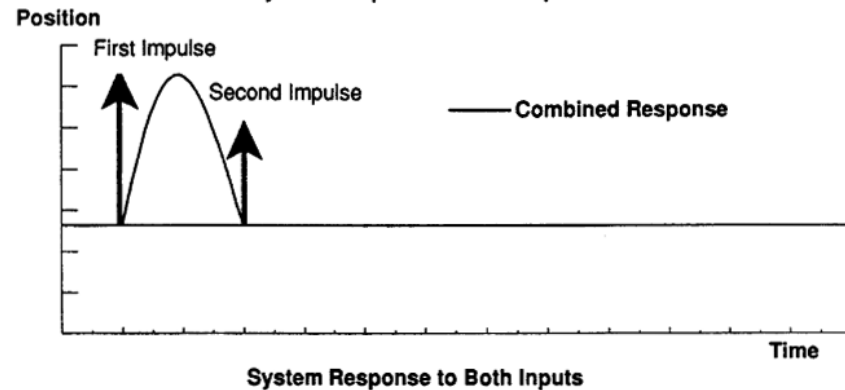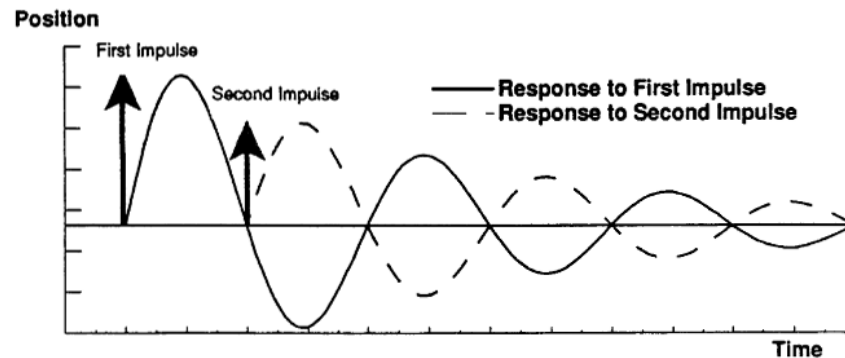
Gantry crane motion stabilization under manual control

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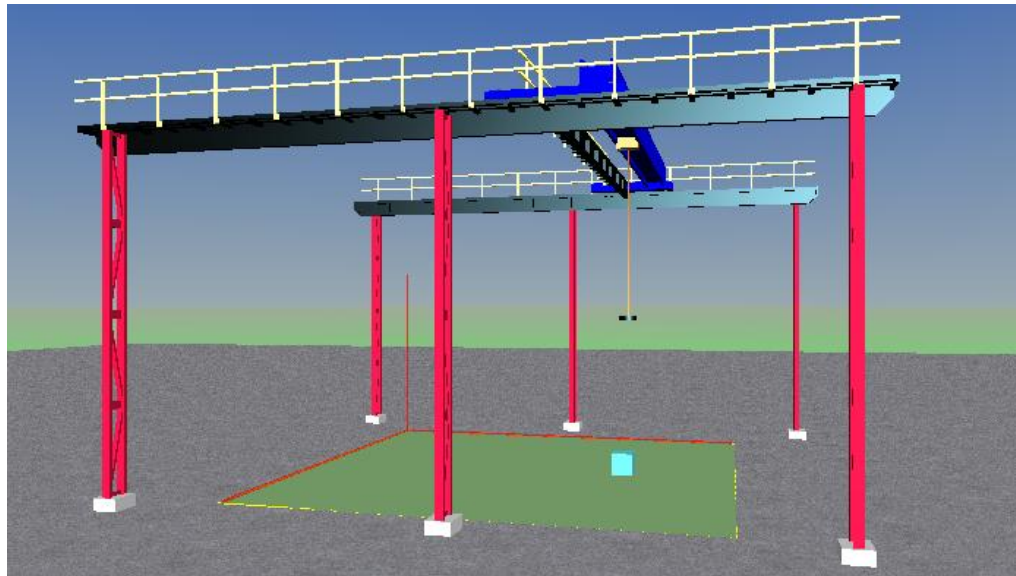# Gantry crane motion stabilization under manual control

Gantry crane motion stabilization under manual control

- Goals
  - Swing reduction of hanging load
  - Implementation to current control system
- Solution
  - Input shaping invented on MIT

Position

First Impulse

Second Impulse

——— Response to First Impulse
- - - Response to Second Impulse

Time

System Response to Each Input

Position

First Impulse

Second Impulse

——— Combined Response

Time

System Response to Both Inputs

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- Model in virtual reality (demo in matlab)

- Travel time decreased from 180s to 43s.

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- Results

  - Travel time improved

  - Control system meeting the safety requirements

  - Operator friendly application of Input shaping

  - Easy implementation of the control system to current PLC.

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Thank you for your attention