

MDI Push Pull/Platform Studies - WBS Development

Scope of work:

Investigate the design, cost and performance of the push pull system for the ILC IR.

- Requirements and parameters
 - Operational requirements
 - Minimum time to swap detectors
 - Vibration/stability requirements
 - Deflections
- Cost estimate
 - Cost vs. benefit analysis
- Platform vs. no platform solution
 - Platform design
 - Steel reinforced concrete
 - ACI codes
 - Structural steel
 - Vibrations
 - Random vibration analysis studies
 - FEA modeling
 - Model validation (steel reinforced concrete)
 - Vibration measurements
 - Repeatability, dimensional stability
 - Maintenance
- Transport system
 - Hilman Rollers or AirPads
 - Strand jacks or hydraulic rams
 - Hydraulic jacking/leveling
 - Alignment w.r.t beamline – passive (conical pegs) or active (hydraulic or electric)
 - Shimming (Sunnex type screw driven wedges or crude shim plates)
 - Trackway
 - Plates or rails
 - IR foundation
 - Consult with ILC Civil Engineers (Kuchler, Osborne)
 - Maintenance