

Heave Compensation – Survey Ship



Background

- Mid-ocean sampling
- Sampling requirements
 - up to 8 km maximum
 - sampled at varying depths
 - accurate depth maintenance from mean ocean surface



Heave Compensation – Survey Ship



Approach

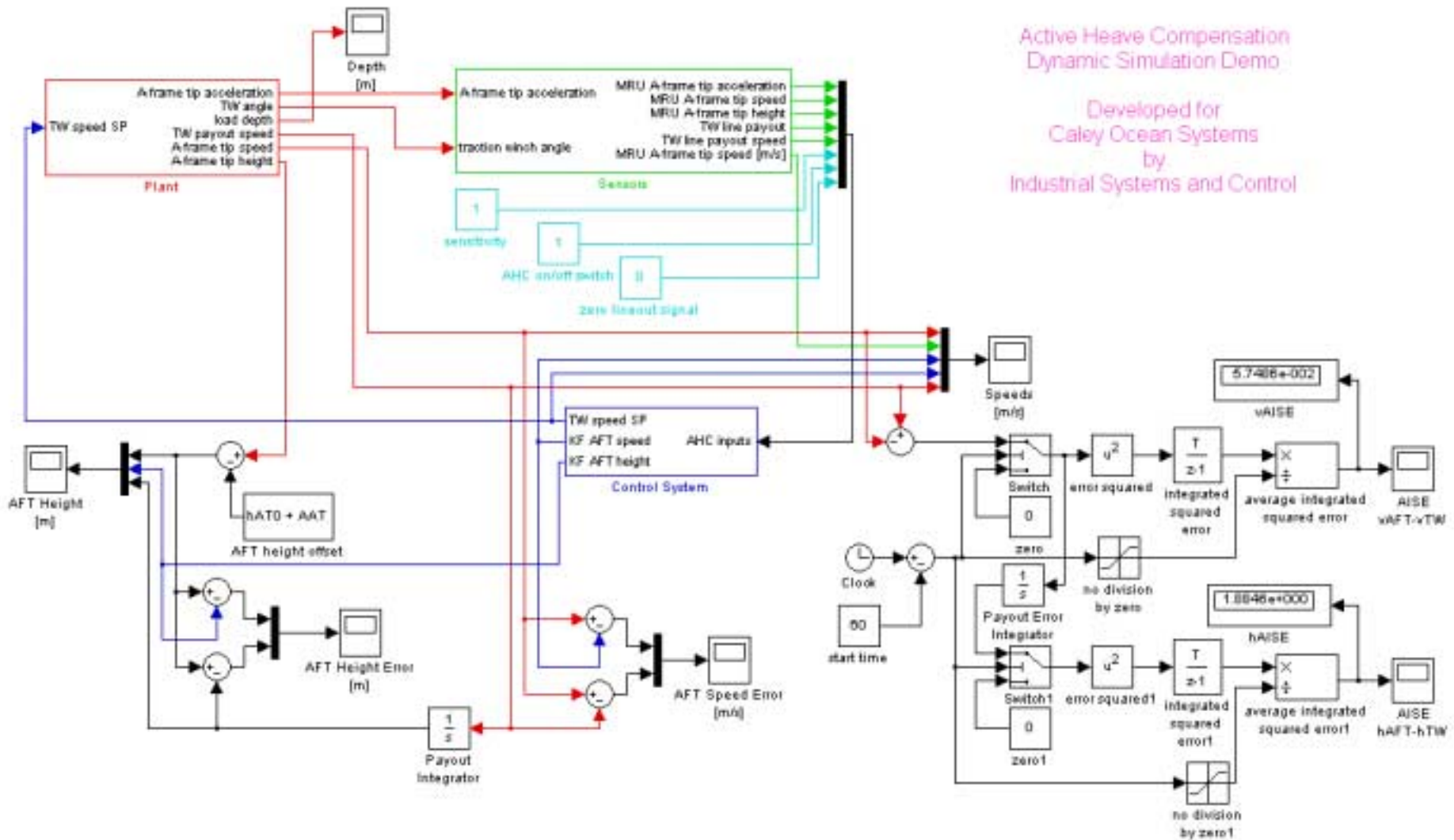
- Build dynamic model
- Parameterise model
 - drive & winch
 - rope
 - sensors



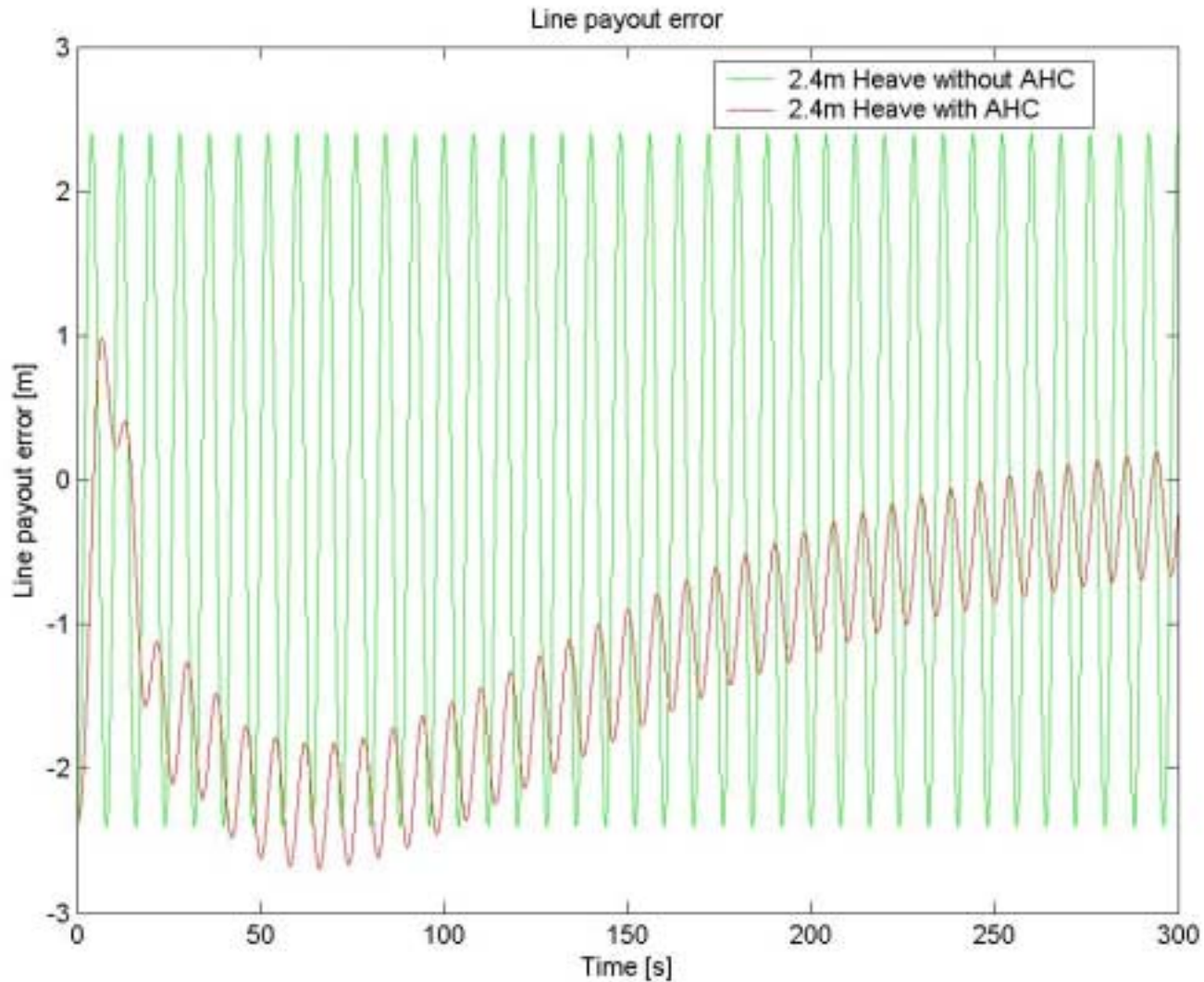
Control Challenges

- Reject sea-state disturbances reflected through hull
- Compensate for line strain, winch & sensor dynamics

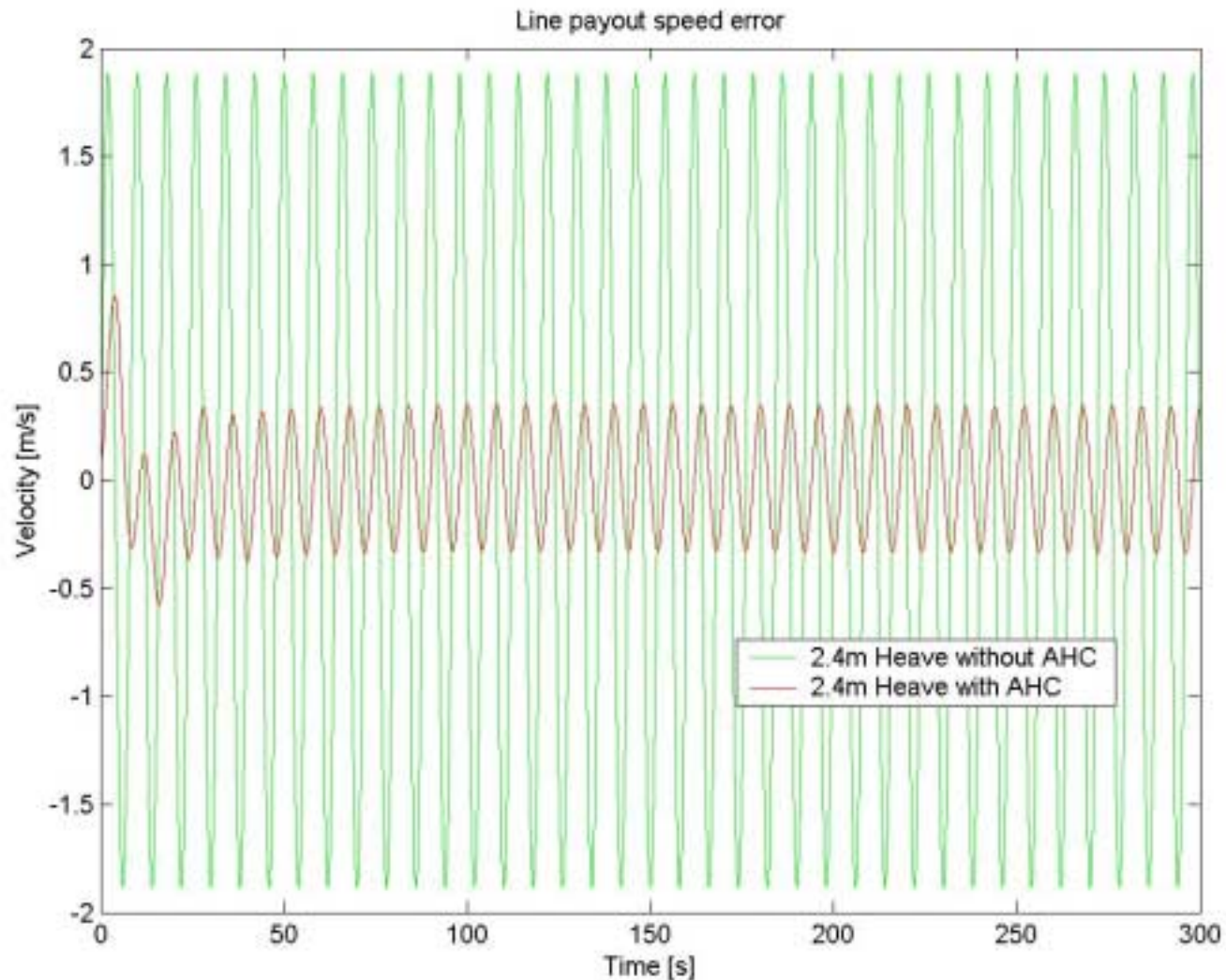
System Modelling/Simulation



Payout Error (with Initial Position Error)



Line Payout Speed Error



Simulated Load Heave

