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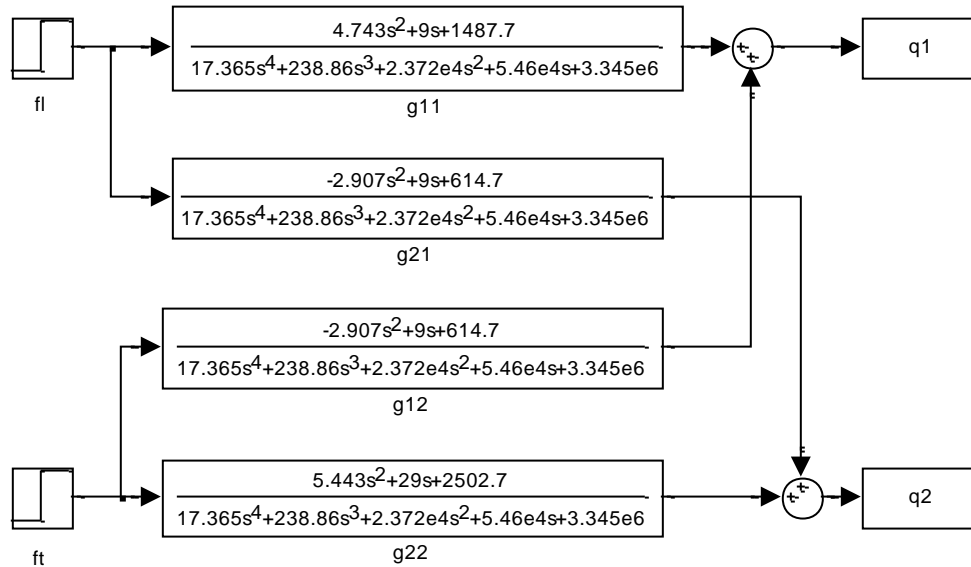
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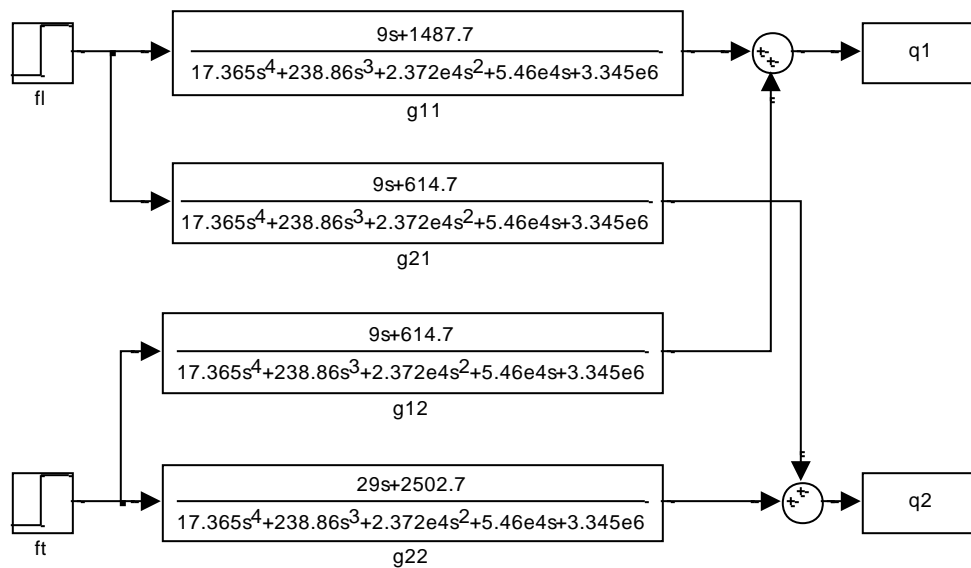


## Appendix

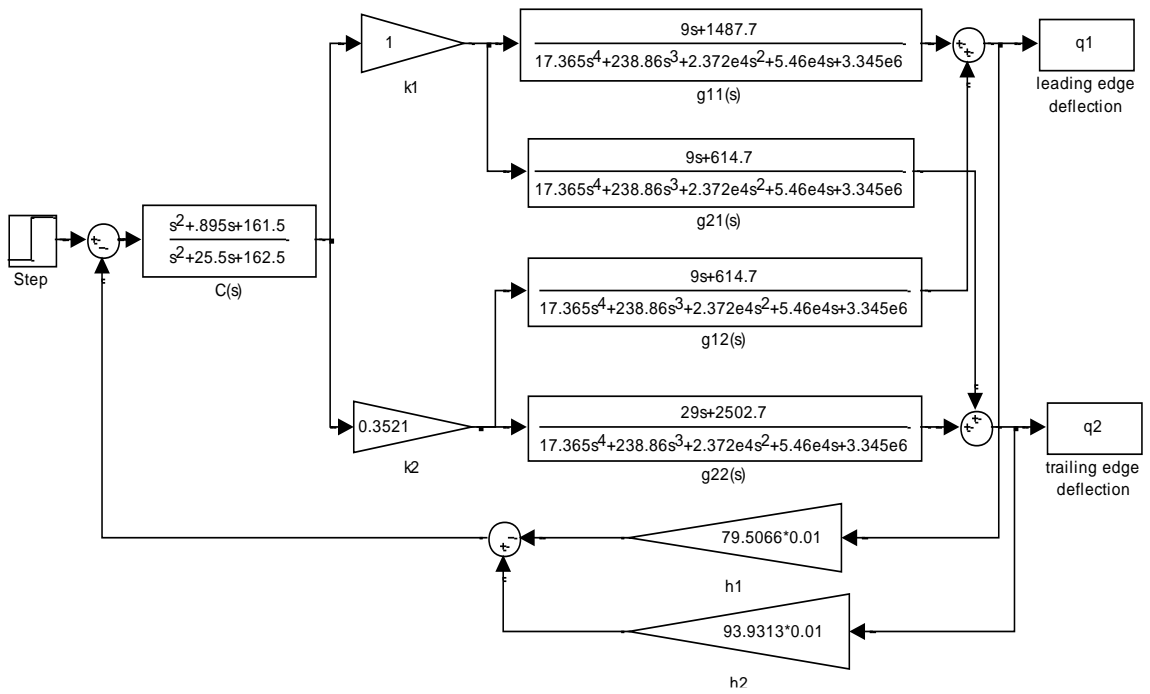
### Least Effort Control Strategy



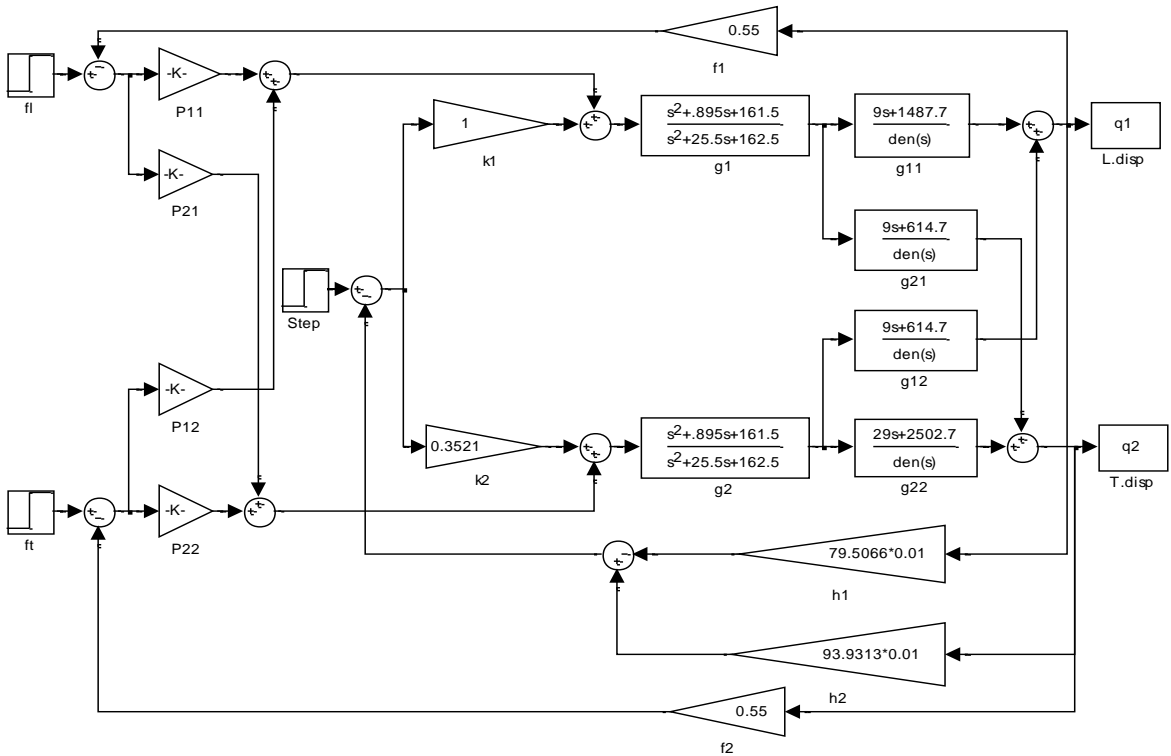
**Figure A.1,** General Open Loop Simulation Model (At zero velocity)



**Figure A.2,** Reduced Open Loop Simulation Model (At zero velocity)

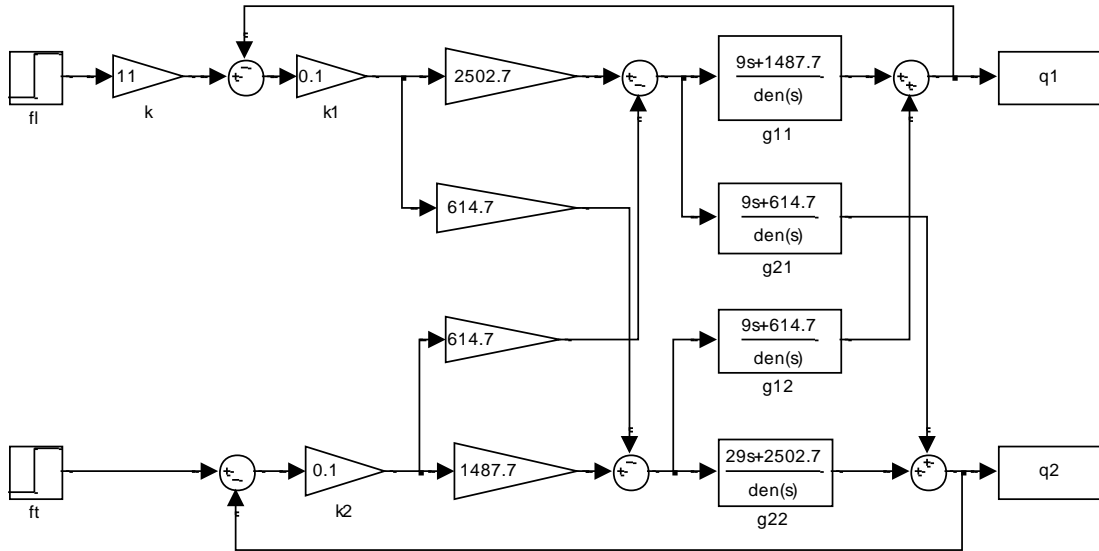


**Figure A.3,** Inner loop system block diagram with compensator Simulation Model (At zero velocity)

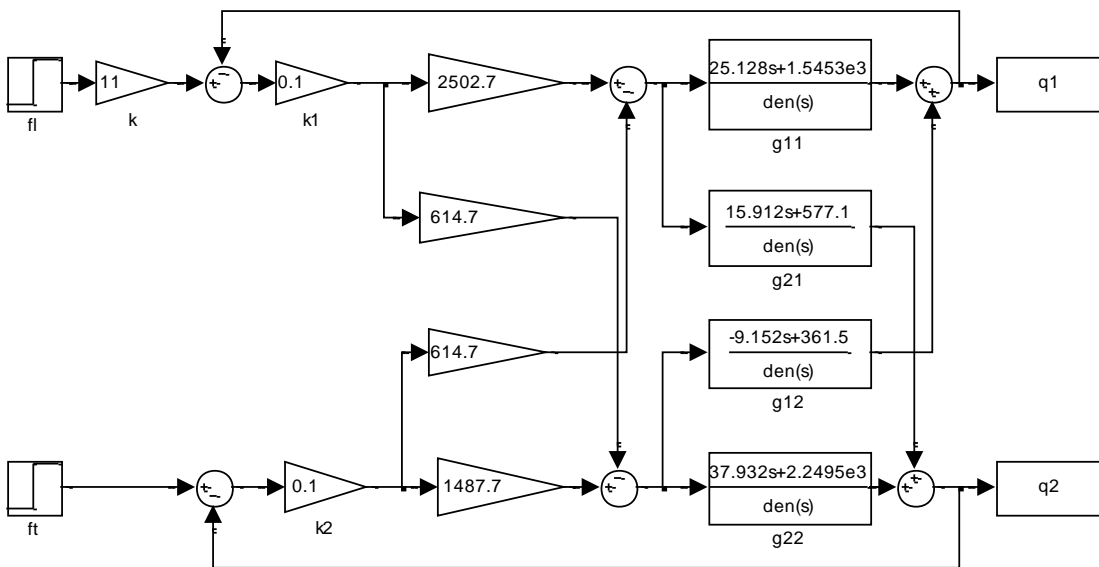


**Figure A.4,** Outer loop system block diagram with compensator Simulation Model (At zero velocity)

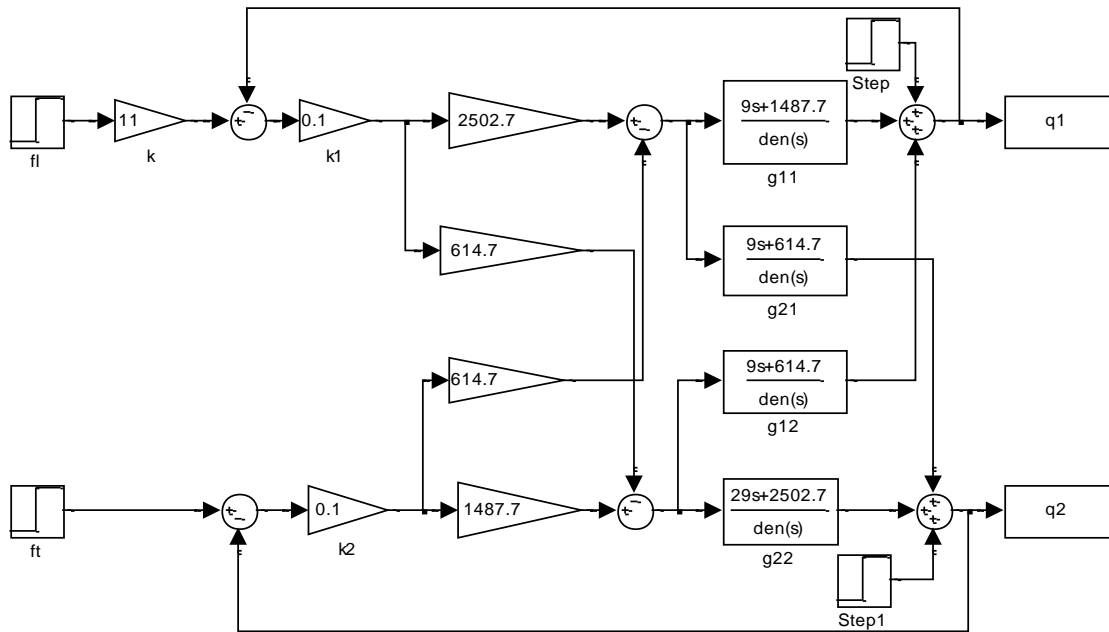
## Nyquist Array Method



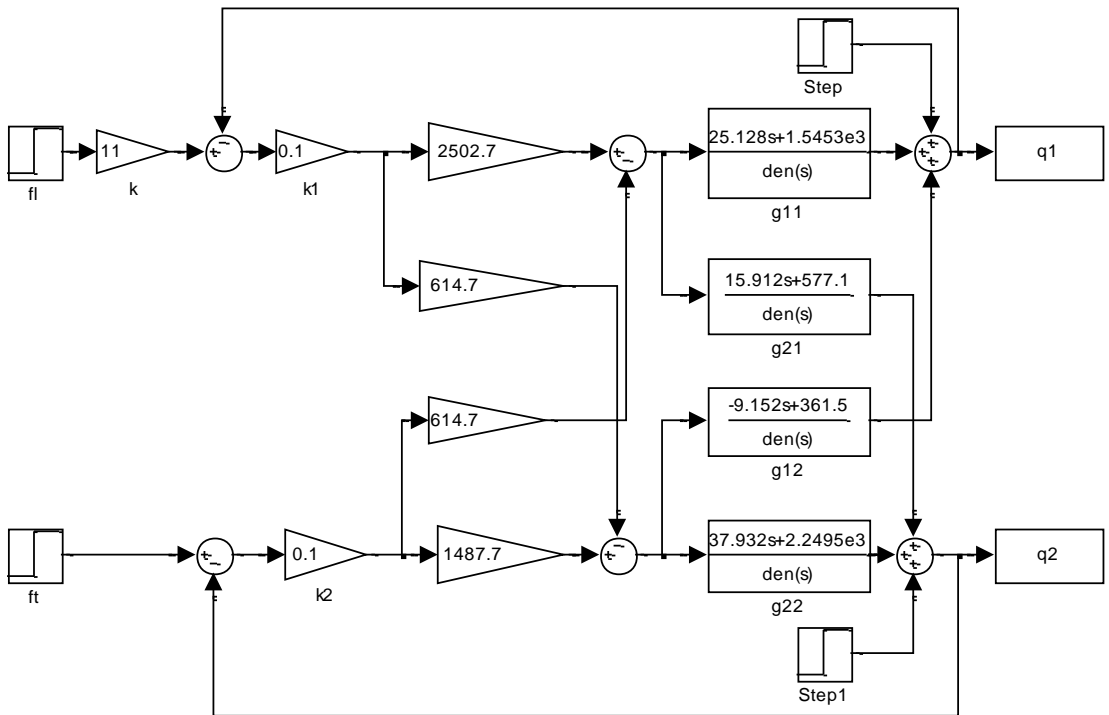
**Figure A.5,** Closed Loop by Nyquist Array Method Simulation Model  
(At zero velocity)



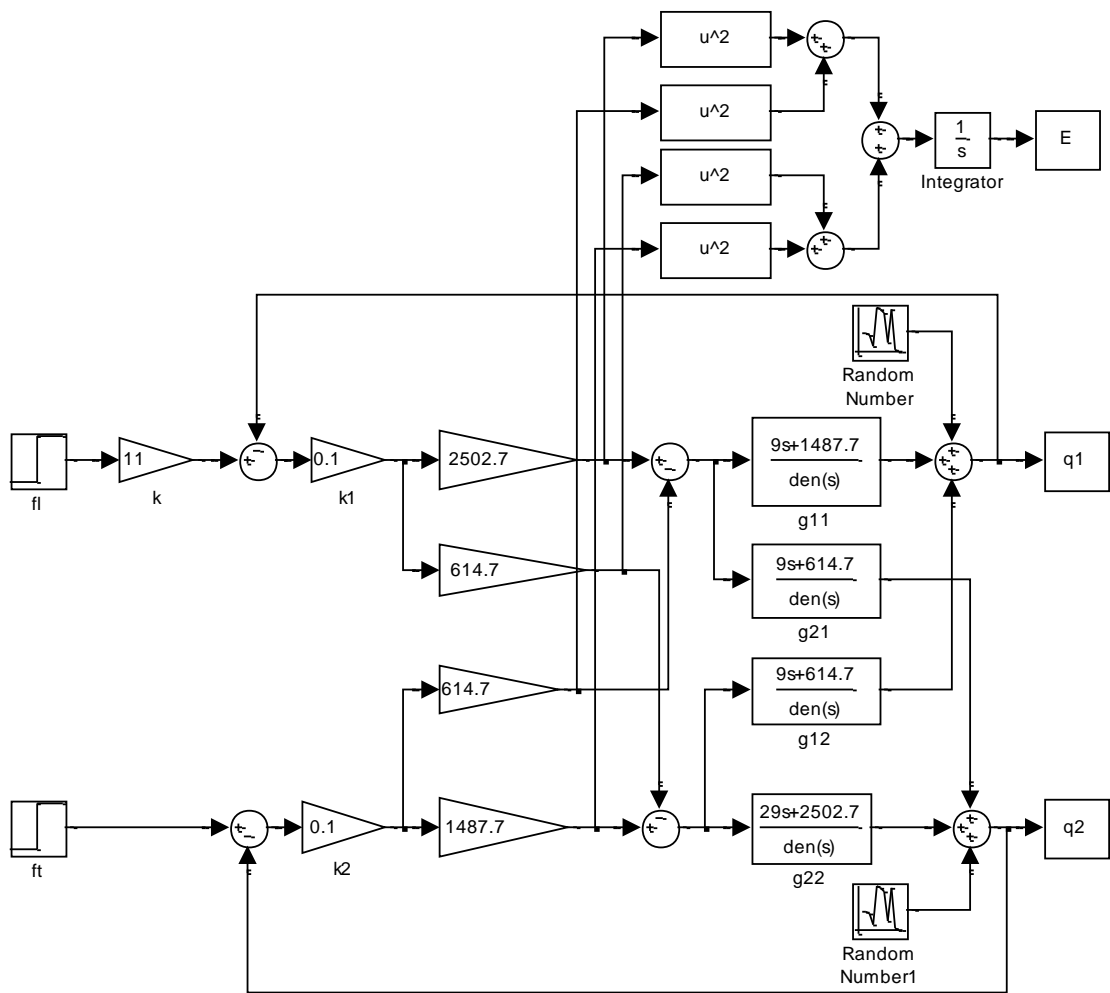
**Figure A.6,** Closed Loop by Nyquist Array Method Simulation Model  
(At  $v = 20$  m/s)



**Figure A.7**, Closed Loop by Nyquist Array Method Simulation Model for computing disturbance rejection (At zero velocity)



**Figure A.8**, Closed Loop by Nyquist Array Method Simulation Model for computing disturbance rejection (At  $v = 20$  m/s)



**Figure A.9**, Closed Loop by Nyquist Array Method Simulation Model for computing energy dissipation