

## **A DIFFERENT KIND OF REPETITIVE CONTROL**

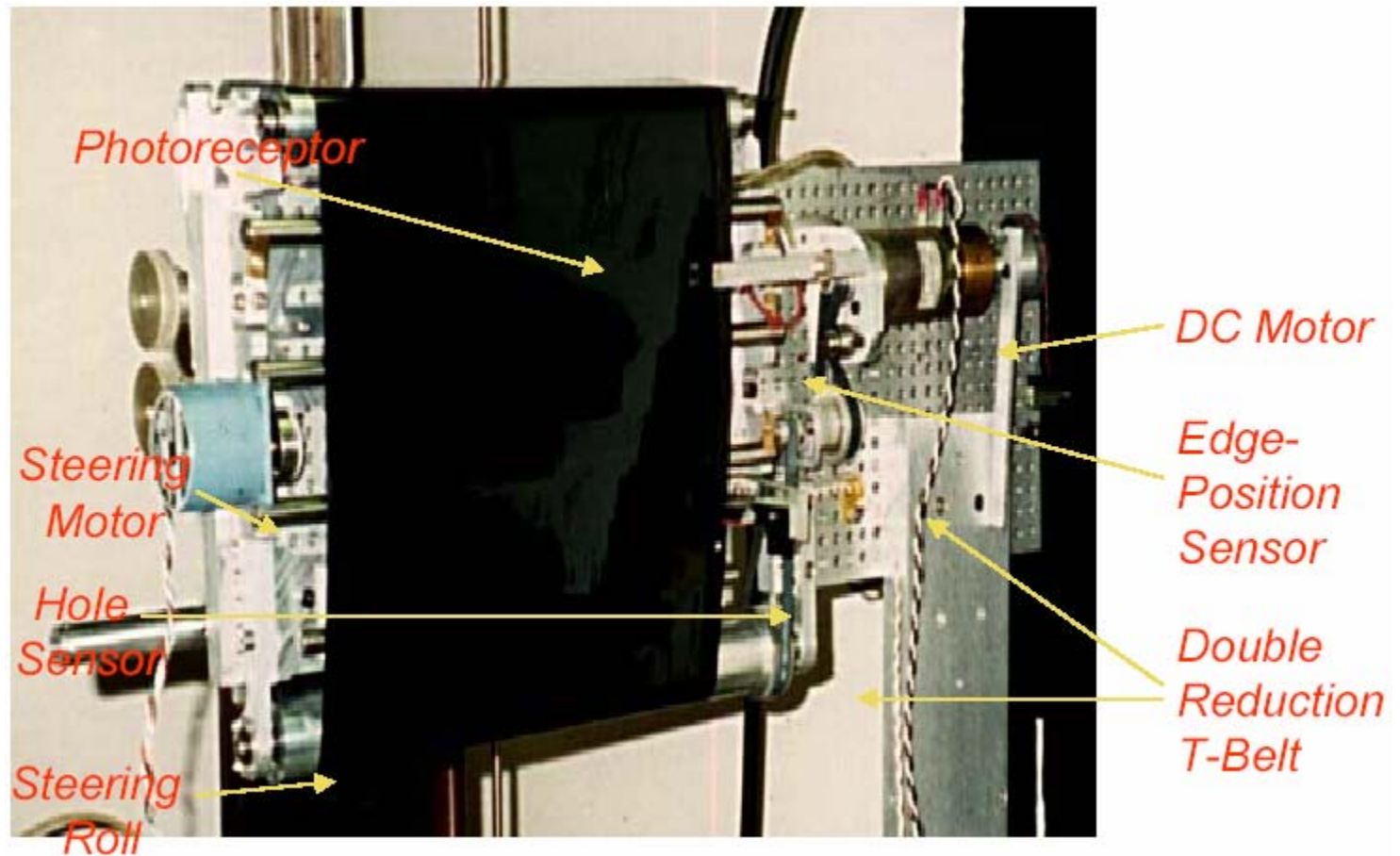
**RC to Eliminate Periodic Measurement Disturbances**

### **Two Experimental Applications**

- 1. Lateral positioning of moving belt (Xerox)**
- 2. Computer Disk Drives (Seagate)**

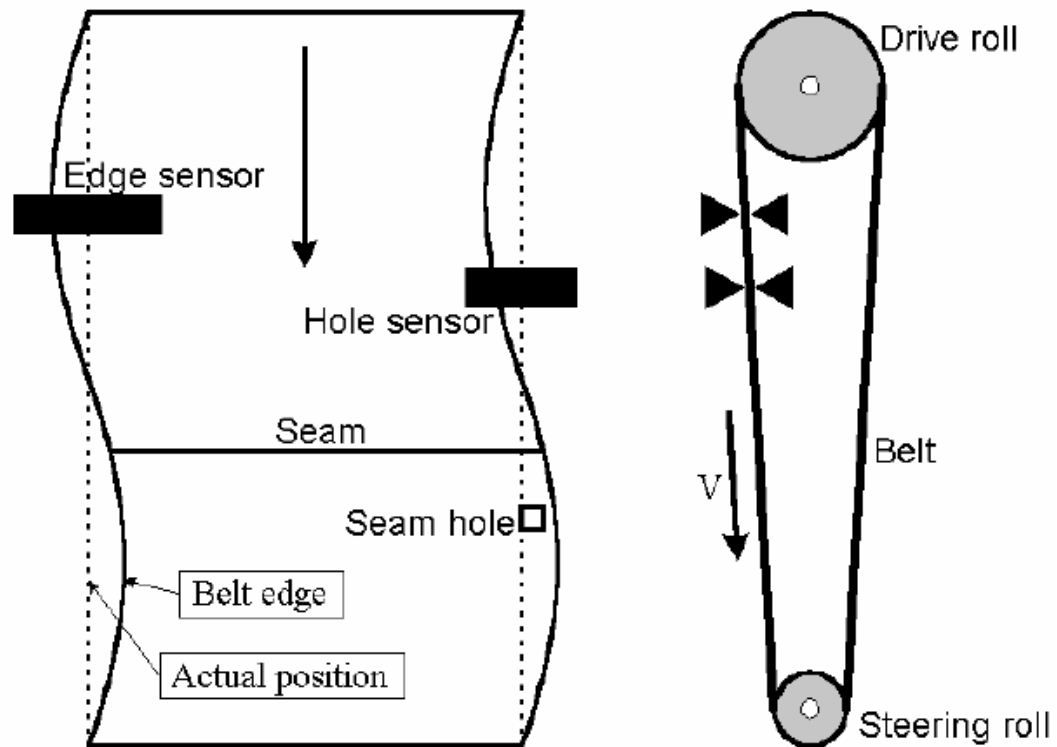
**References 27, 83**

## BELT STEERING SERVOMECHANISM

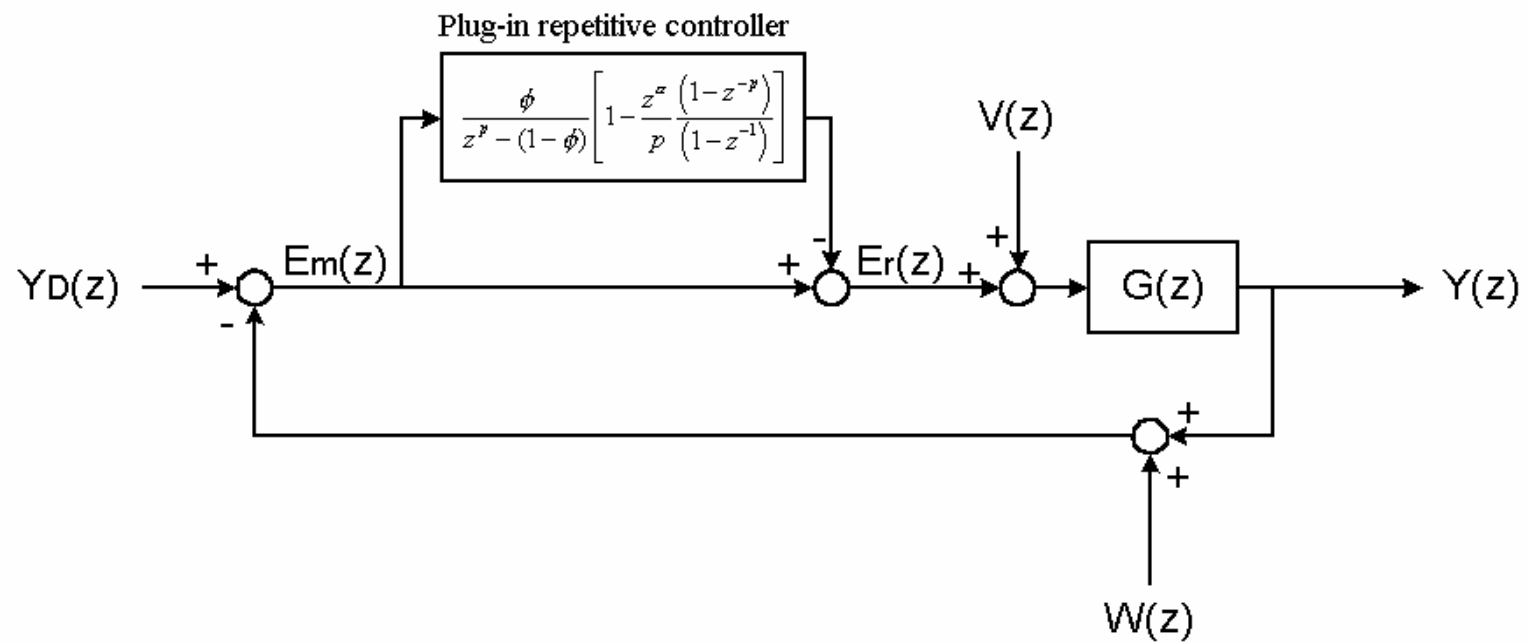


Reference 83

## BELT STEERING SERVOMECHANISM DIAGRAM

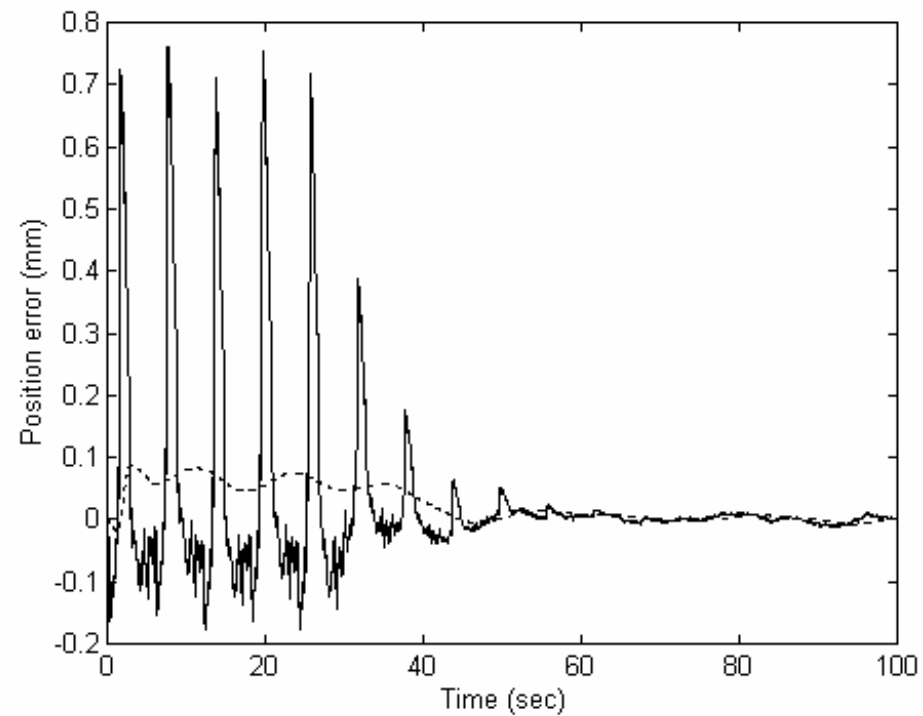


## PLUG-IN REPETITIVE CONTROLLER FOR BELT STEERING



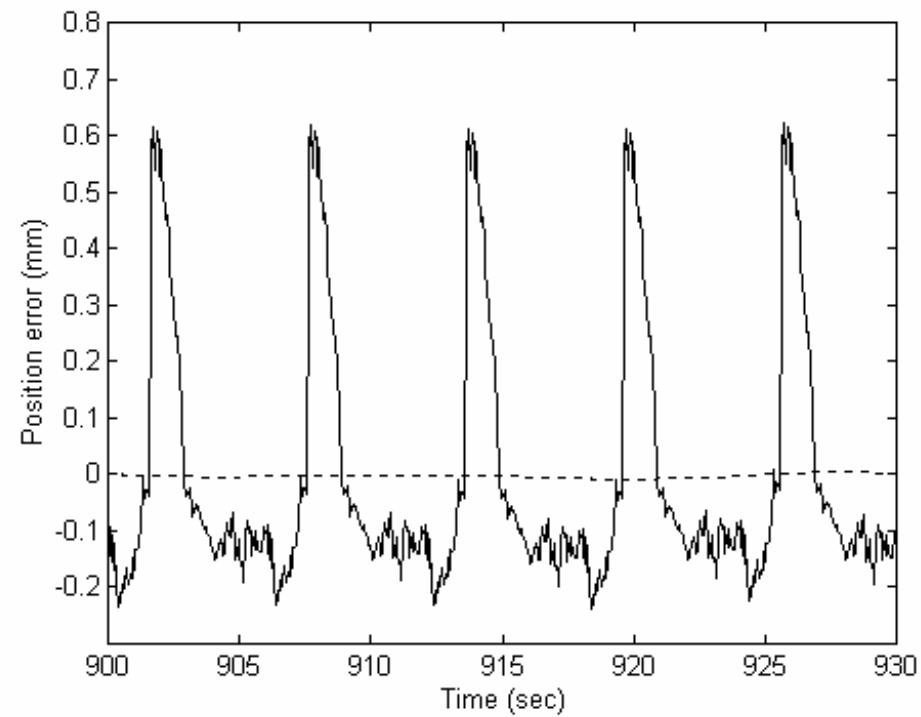
## BELT POSITION ERROR VS. TIME

**First 30 sec – Feedback control only**  
**Dashed line – Backward moving average filter**



## **AFTER CONVERGENCE (900-930 seconds)**

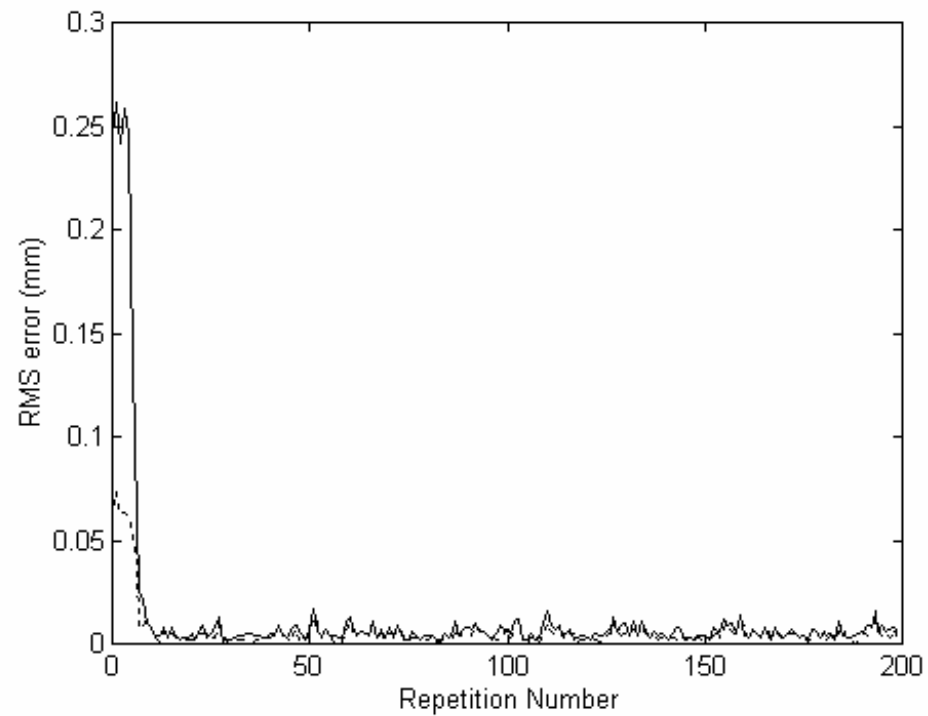
**Solid line – Measured Error**  
**Dashed line – Backward moving average error**



**Reference 83**

## **RMS BACKWARD MOVING AVERAGE ERROR FOR EACH PERIOD**

**(Feedback only for first 5 repetitions)**



**Reference 83**