

# **Abstract**

**Alaa Eldin Ahmed Khalil**

## **Parametric Study of Electro-Hydraulic Servo Valve Using a Piezo-Electric Actuator**

Abstract - This paper deals with the mechatronics approach for the design of a piezoelectric actuator and its integration into a servo valve. A piezo-element is introduced as an actuator, instead of conventional electrically operated torque motor, to operate the spool valve. The non dimensional equations describing the system were derived. PD controller was also synthesized. Parametric simulation was conducted to study the effects of the system parameters on its performance. The simulation results are presented and discussed.