

	<b>Soheil Alidoosti</b>
<b>Research Interest:</b>	<ul style="list-style-type: none"> <li>-Design and control of flight surface actuators</li> <li>-Renewable energies</li> <li>-Bio-Inspired robots design</li> <li>-Fault detection and identification</li> <li>-System identificatin</li> </ul>
<b>Thesis Title:</b>	Design and control of aerodynamic load simulator with electro-hydrostatic actuator
<b>Abstract:</b> <p>A electro-hydrostatic load simulator which can reproduce on ground the aerodynamic hinge moment of control surface is an essential rig for the performance and stability test of an aircraft actuation system. The hinge moment varies widely over the flight envelope depending on the specific flight condition and maneuvering status. To replicate the wide spectrum of this hinge moment variation within some accuracy bounds, a force controller is designed based on the quantitative feedback theory (GFT). An electro-hydrostatic actuator is a closed-loop form of hydraulic system which controls an actuator's movment by routing fluid to it via a fixed-dispalcement pump attached to a servomotor. The two primary components of the EHA's hydraulic circuit are a bi-directional external gear pump and actuator, but the system incorporates an accumulator, a relief valve, a by-pass valve and a series of check valves for full functionality. The minimal component and the closed-loop architecture lend itself to be lightweight, modular and independent of other hydraulic systems on an aircraft.</p>	
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