

Special Issue

Digital Hydraulic Control with Actuators

Message from the Guest Editor

Digital hydraulic control with actuators has gained more attention from researchers because it is safe and flexible to use. Digital technology provides the actuators with the advantages of high precision, high reliability and low pollution and improves the anti-interference ability, controllability, stability and energy saving of the actuators. However, for digital hydraulic control with actuators, the following technical challenges remain to be overcome: ultra-low speed stability, anti-crawling technology, ultra-high speed and low pulsation technology, state integrated perception and modular technology, multi-source condition monitoring and intelligent fault diagnosis technology, integrated displacement/speed measurement technology, hydraulic cylinder digital drive and its associated control technology, the intelligent fault diagnosis and predictive maintenance technology of hydraulic cylinders, etc. Papers are welcome on topics that are related to the following areas:

- Intelligent engineering machinery;
- Intelligent equipment;
- Digital hydraulics;
- Integrated actuator;
- Digital hydraulic cylinder;
- Digital hydraulic motor;
- Electric hydrostatic actuators.

Guest Editor

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of \$1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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