Special Issue

Stable Control Technology and Image Perception Technology in Optoelectronic Servo Systems

Message from the Guest Editors

The photoelectric servo system has been widely used in fields such as optical communication, photoelectric imaging, and ecological monitoring. Its research covers multiple directions: high-precision pointing and tracking of moving targets; stable imaging technology; augmented reality intelligent collaborative technology, etc., covering interdisciplinary fields such as optics, electronics, control science, physics, mechanics, computer science, etc.

At present, optoelectronic servo systems still face many challenges in engineering and technology: harsh application environments; unpredictable platform vibrations; nonlinear external disturbances. Moreover, the accuracy of image trajectory prediction and extraction is poor.

In addition, the development of optoelectronic servo systems focuses on the design of high bandwidth and fast-response control systems; development of high-performance motion control algorithms; high-precision image prediction and extraction, etc. The unique advantages of optoelectronic servo systems determine their broad application prospects and strong development potential.

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