ICIEA 2022 Special Session Template

Title of session	Recent Developments and Applications of Equivalent-Input-Disturbance Approach
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Summary of session	Disturbance rejection is one of the key control problems in a wide range of engineering fields, such as mechatronics, robotics, manufacturing, and civil engineering. How to estimate and compensate for disturbances in a control system has been investigated from various viewpoints. Equivalent-input-disturbance (EID) approach is an active-disturbance-rejection method that not only rejects exogenous disturbances but also compensates for plant uncertainties. Since the EID approach only requires that the output caused by disturbances is differentiable, this condition can easily be satisfied. This ensures that this method is able to be applied to a wide range in control practice. This invited session focuses on recent developments and applications of the EID approach. It provides researchers and engineers with a platform to present state-of-art study results, to exchange research ideas, and to discuss new methods and future trends in this area. We believe that this invited session will contribute to the related academic fields and benefit the industrial community. Topics of this invited session include but are not limited to ➢ Active disturbance estimation and rejection method ➢ AI-integrated disturbance estimation and rejection ➢ Comparison analysis of EID and other methods ➢ Design methods for EID approach ➢ Implementation of EID approach ➢ Nonlinear system control based on EID approach ➢ Performance analysis of EID approach