DESIGN PROCEDURE FOR INVERSE MODEL COMMAND: CONTROL METHOD FOR NONLINEAR PROCESSES

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Structurile cu model invers reprezintă una din soluţiile de succes pentru sistemele de timp real utilizate în reglarea proceselor neliniare. Utilizarea acestora impune rezolvarea unor probleme specifice cum sunt cele legate de determinarea caracteristicii statice a procesului, construcţia modelului invers sau proiectarea robustă a comenzii. Lucrarea propune o structură de reglare bazată pe modelul invers al procesului precum şi o metodologie practică originală corespunzătoare proiectării şi implementării fizice a acesteia. Aplicabilitatea acestei structuri este demonstrată utilizând o structură de reglare de tip RST. În final, sunt prezentate implementarea software şi rezultatele obţinute.

Structures with inverse model represent one of the successful solutions for the real-time control of the nonlinear processes. The use of these structures imposes solving some specific problems, like determination of static characteristic of the process, construction of inverse model or robust control law design. The paper proposes a structure and the correspondent original methodology of designing and physically implementation based on inverse model command. The applicability of the structure is proved using a real-time structure with an RST control algorithm. In the end, its software implementation and the obtained results are also shown.

Keywords: control systems, inverse model, robustness, real-time systems.

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