Hanze

Vak: Regeltechniek — credits: 5

Vakcode	ELVH17GREG
Naam	Regeltechniek
Studiejaar	2022-2023
ECTS credits	5
Taal	Nederlands
Coördinator	J. Zijlstra
Werkvormen	Gastcollege Practicum / Training Werkcollege
Toetsen	Regeltechniek - Schriftelijk, organisatie ToetsCentrum

Leeruitkomsten

The student can:

- develop and analyse 1st and 2nd order system models by means of, or resulting in the corresponding differential equation; and can derive the transfer function of such systems, identifying their characteristic values. In this course we concentrate on mechanical and electrical systems;
- construct system models using block diagrams, and can identify the different forms of transfer functions;
- determine the dynamic response of system components to different inputs and disturbances using the method of Laplace transforms and transfer functions;
- use and apply basic methods for stability and error analysis in order to analyse steady state errors;
- identify the poles and zeros of a dynamic system, and use these methods to analyse the stability behaviour of systems;
- apply basic methods (e.g. proportional-integral-derivative control [PID]) to design feedback systems;
- apply the concepts of frequency response to construct and interpret Bode diagrams;
- calibrate a sensor and determine the transfer function of a sensor controlled process by comparing practical results to theory;
- evaluate control error and control instability in a control system and relate this to theoretical considerations.

Inhoud

Geen tekst beschikbaar

Opgenomen in opleiding(en)

Elektrotechniek Major Elektronica
Elektrotechniek Major Mechatronica

School(s)

Instituut voor Engineering

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