

Vak: Adaptive Filters

credits: 5

Vakcode SEVM21AF
Naam Adaptive Filters
Studiejaar 2026-2027
ECTS credits 5
Taal Engels
Coördinator B.D. Williams

Werkvormen Hoorcollege
Projectonderwijs
Toetsen Adaptive Filters - Opdracht

Leeruitkomsten

At the end of this module the student is able to:

- understand the link between Fourier analysis and the Z-transform.
- create and understand how a digital filter (FIR/IIR) works.
- clean data using advanced filtering techniques, including the Wiener filter, (normalized) Least-Mean-Square (LMS) adaptive filters, Recursive Least Squares (RLS) adaptive filters, and Kalman filtering.
- describe systems in the time-domain and/or frequency domain using stationary discrete-time stochastic processes and models, such as autoregressive (AR) and moving-average (MA) models.

Inhoud

The course covers the following topics:

Z-transform, FIR and IIR filters, stationary discrete-time stochastic processes and models, (normalized) Least-Mean-Square adaptive filters, Recursive Least Squares Adaptive Filters and Kalman filtering, model simulation tools, model-based reasoning.

Opgenomen in opleiding(en)

Smart Systems Engineering

School(s)

Engineering, Life Sciences & ICT