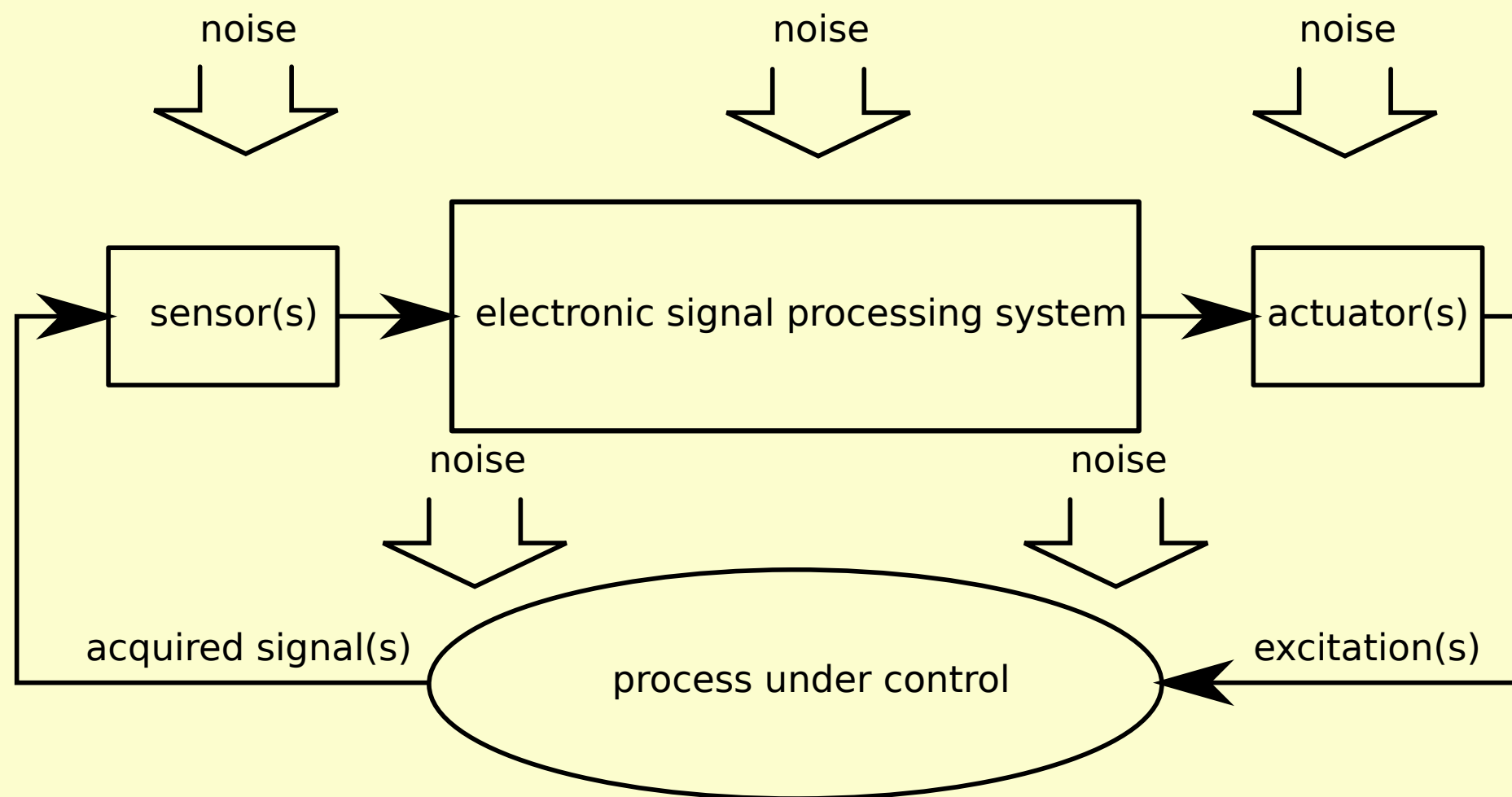# Structured Electronic Design

EE3C11
Information processing: definitions

Anton J.M. Montagne

Architecture information processing system

Measurement and control system

Signal processing in noisy environments

noise   noise   noise

sensor(s) → electronic signal processing system → actuator(s)

noise   noise

acquired signal(s)   process under control   excitation(s)

Definitions

Signal
- a physical quantity that contains meaningful data

Data
- properties or details of a signal that represent the information

Noise
- a physical quantity whose data is meaningless

Information
- the meaning of the data

Signal processing
- Perform operations on a signal. Extract or modify the information contained in the signal.
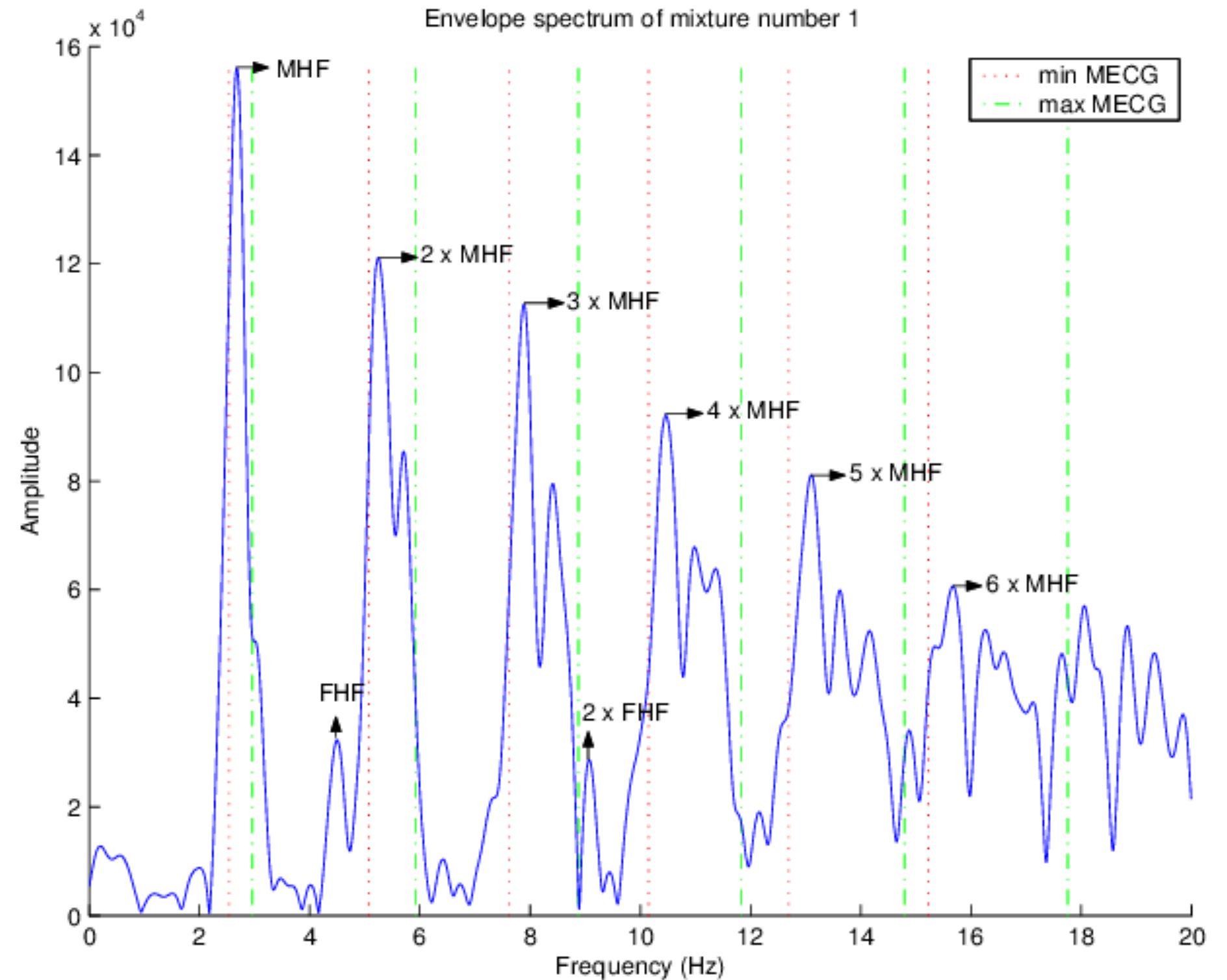
2

Information and noise

Mother's (MHF) and foetus' (FHF) heartbeat frequencies and their harmonics.

Source:

Michel Haritopoulos and Asoke K Nandi

Extraction of Foetal Contribution to ECG Recordings Using Cyclostationarity-Based Source Separation Method