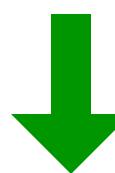


Structured Electronic Design

Design of application-specific
negative feedback amplifiers
with operational amplifiers

Anton J.M. Montagne

Design step



Design tool

SLiCAP
SLiCAP
SLiCAP
SLiCAP
SLiCAP
Database
SLiCAP
LTspice
SLiCAP / LTspice

✓						
	✓					
		✓				
			✓			
				✓		
					✓	
						✓

- Setting up and understanding the specifications*
Design considerations w.r.t. the amplifier type: A, B, C, D
Design considerations w.r.t. the V/I drive capability and biasing stability
Design considerations w.r.t. the noise performance
Design considerations w.r.t. the mid-band accuracy and bandwidth
Component selection (e.g. operational amplifier)
Frequency compensation
Verification of the weak nonlinearity
(Specification of bias sources)

*Function, performance,
costs and environment*
Feedback configuration
Biasing concept, supply voltages
Controller input noise sources
Loop gain and LP product
Putting it all together
Frequency response, PZ pattern
Distortion
Design of bias sources

← design aspect