

## On the Modified Barkhausen Criterion - DTU Orbit (09/11/2017)

### On the Modified Barkhausen Criterion

Oscillators are normally designed according to the Modified Barkhausen Criterion i.e. the complex pole pair is moved out in RHP so that the linear circuit becomes unstable. By means of the Mancini Phaseshift Oscillator it is demonstrated that the distortion of the oscillator may be minimized by introducing a nonlinear "Hewlett Resistor" so that the complex pole-pair is in the RHP for small signals and in the LHP for large signals i.e. the complex pole pair of the instant linearized small signal model is moving around the imaginary axis in the complex frequency plane.

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