

EE 3113

INTRODUCTION INTO RF

CIRCUIT DESIGN

Lecture Notes for A-term 1999

LECTURE 11

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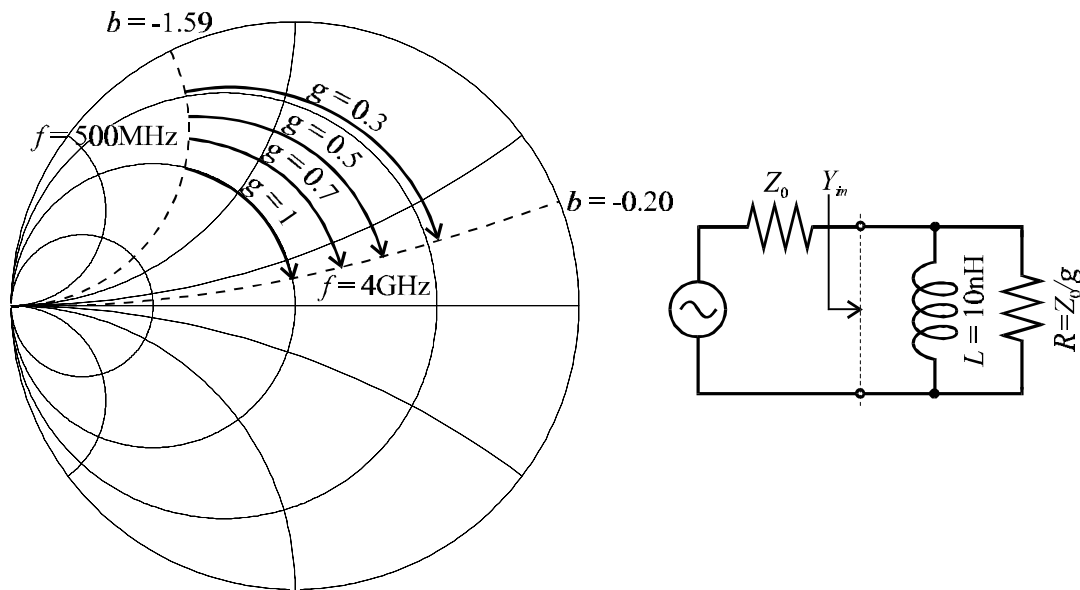
Worcester, MA 01609

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Parallel Connection of R and L Elements (Smith Chart)

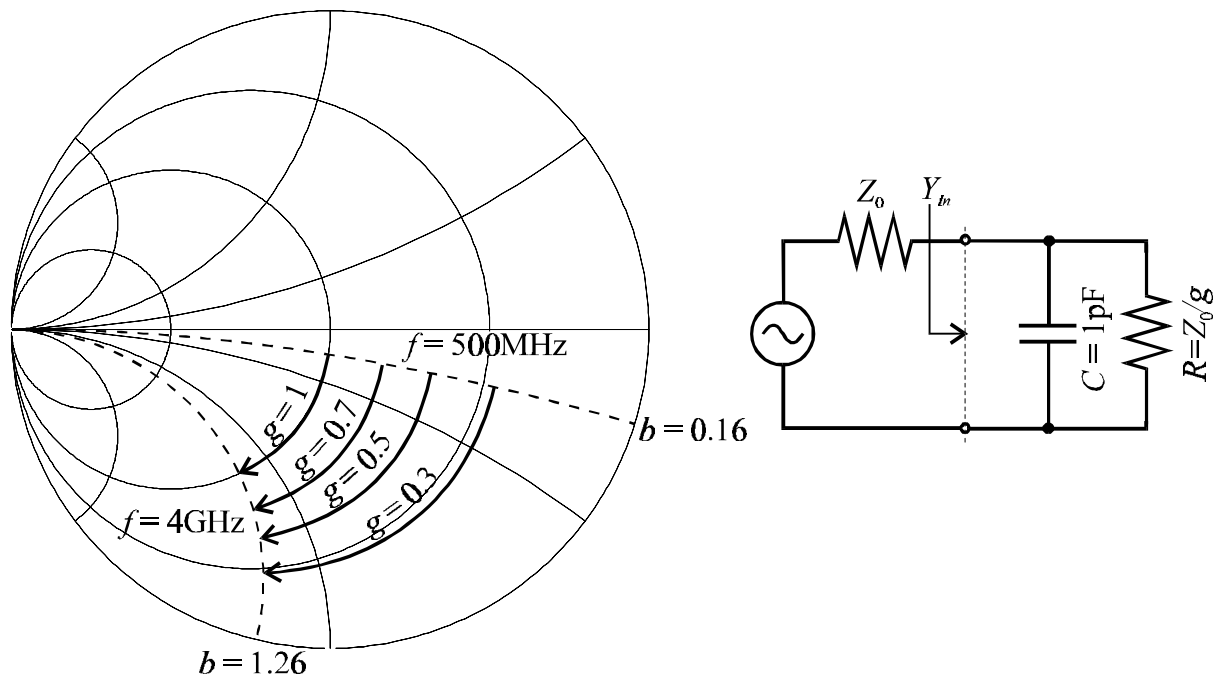
- parallel connection of R and L elements

$$y_{in}(w_L) = g - j \frac{1}{w_L L Y_0}$$



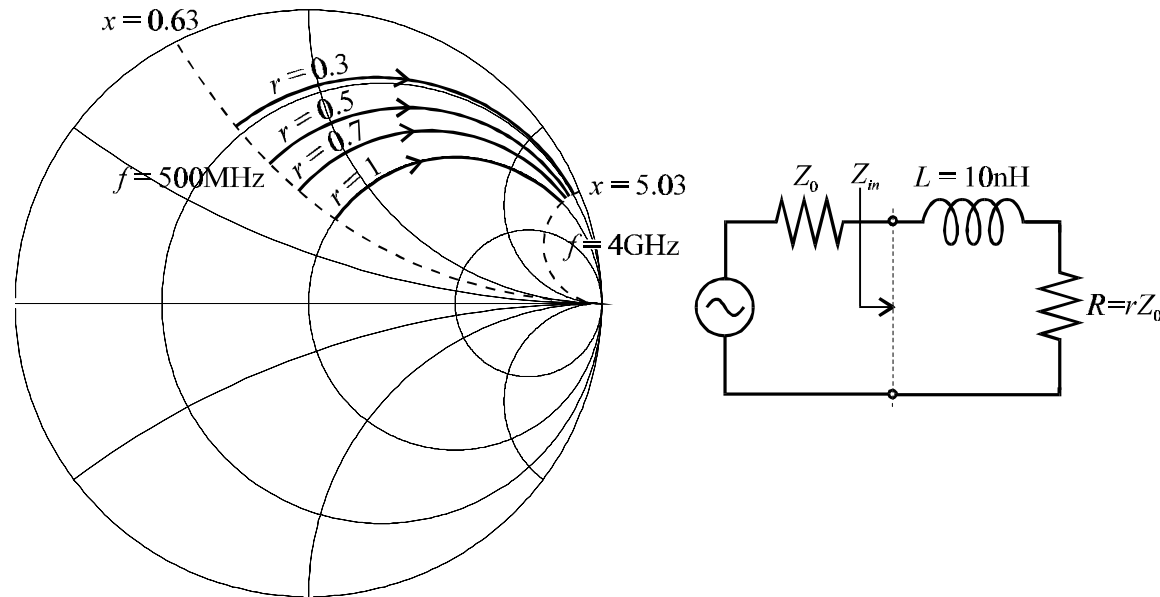
- Parallel connection of R and C elements

$$y_{in}(w_L) = g + jZ_0 w_L C$$



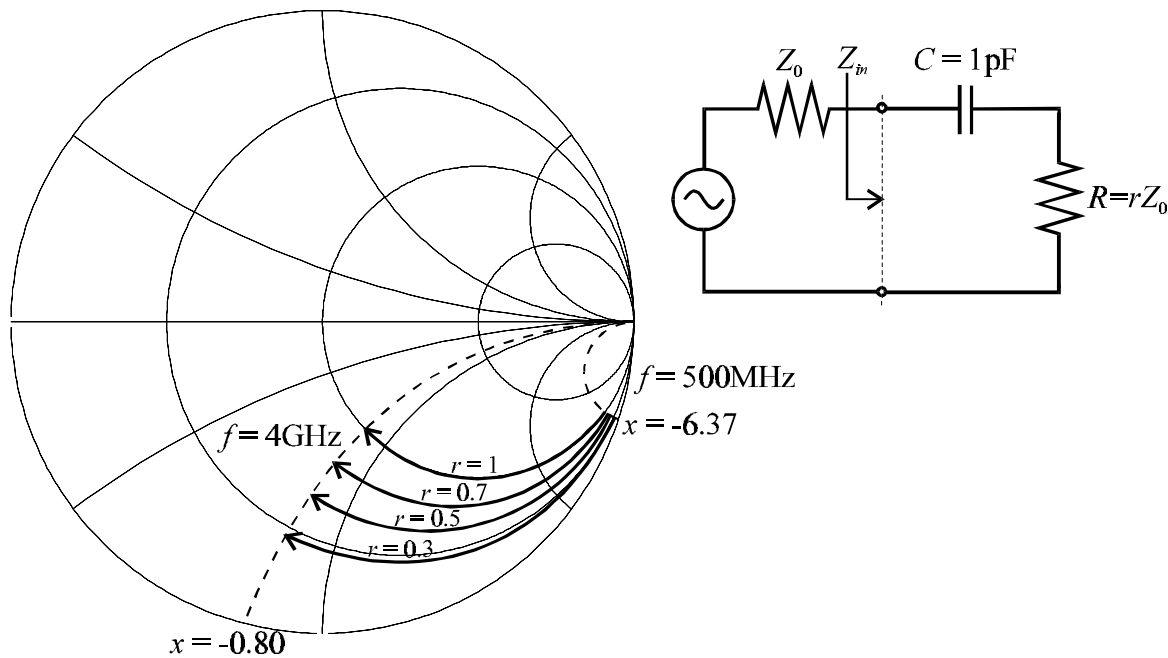
- Series connection of R and L elements

$$Z_{in}(w_L) = r + j \frac{w_L L}{Z_0}$$



- Series connection of R and C elements

$$z_{in}(w_L) = r - j \frac{1}{w_L C Z_0}$$



Practical case: BJT connected via a T-network

