Real Coil

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[R,L,C]=model_coil(L,Rs,fres,f)

Author: JCCopyrights Summer 2019 This function takes the inductance (DC), series resistivity(AC at frecuency f) resonance frecuency and working frecuency And returns the R, L and C of the inductance real model (C//LR) Use this function to generate the real model of the coil with impedance measurements. DO NOT TRUST THIS TOO MUCH @TODO:FIX

Parameters

- @param **L** Inductance
- @param **Rs** Series real resistance
- @param **fres** LC resonance frecuency
- @param **f** Working frecuency
- @retval **R** Winding Resistance
- @retval **Ls** Series Inductance
- @retval **C** Parasitic capacitance

Code

```
function [R,L,C]=model_coil(L,Rs,fres,f)
 w=2*pi*f;
 wres=2*pi*fres;
 C=1/(wres^2*L);
 syms Ry;
 eqn=Rs==Ry/(w^2*Ry^2*C^2+(1-L*C*w^2)^2);
 var= [Ry];
 solx=solve(eqn,var);
 R=min(double(solx)); %Never trust this function
```

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