



## Choosing Bias Conditions:

Data for the S-parameter-based component were measured at  $V_{CE}=8V$  and  $I_{CE}=2mA$ . Choosing the bias conditions for the device model consists of determining what base voltage is required to give  $I_{CE}=2mA$  when  $V_{CE}$  is set to 8V.

Named connections are defined for  $V_{BE}$  and  $V_{CE}$ . A "Var eqn" component defines  $I_{BB}$  and initializes it to 0. The DC simulation control is set to sweep  $I_{BB}$ .

The results are saved in BiasSetup.dds.

Choosing "Simulate>Annotate DC Solution" after simulation shows first result in sweep.



DC  
DC1  
SweepVar="IBB"  
Start=19.5  
Stop=25  
Step=0.5

The sweep variable and range are defined in the "DC" controller.

Units are defined as uA in the I\_DC source component.

The sweep parameters are displayed by editing the component and going to the "Display" page in the parameter dialog.

Var  
Eqn VAR1  
IBB=0

The variable  $I_{BB}$  is initialized here, but the value is set in the "DC" controller.