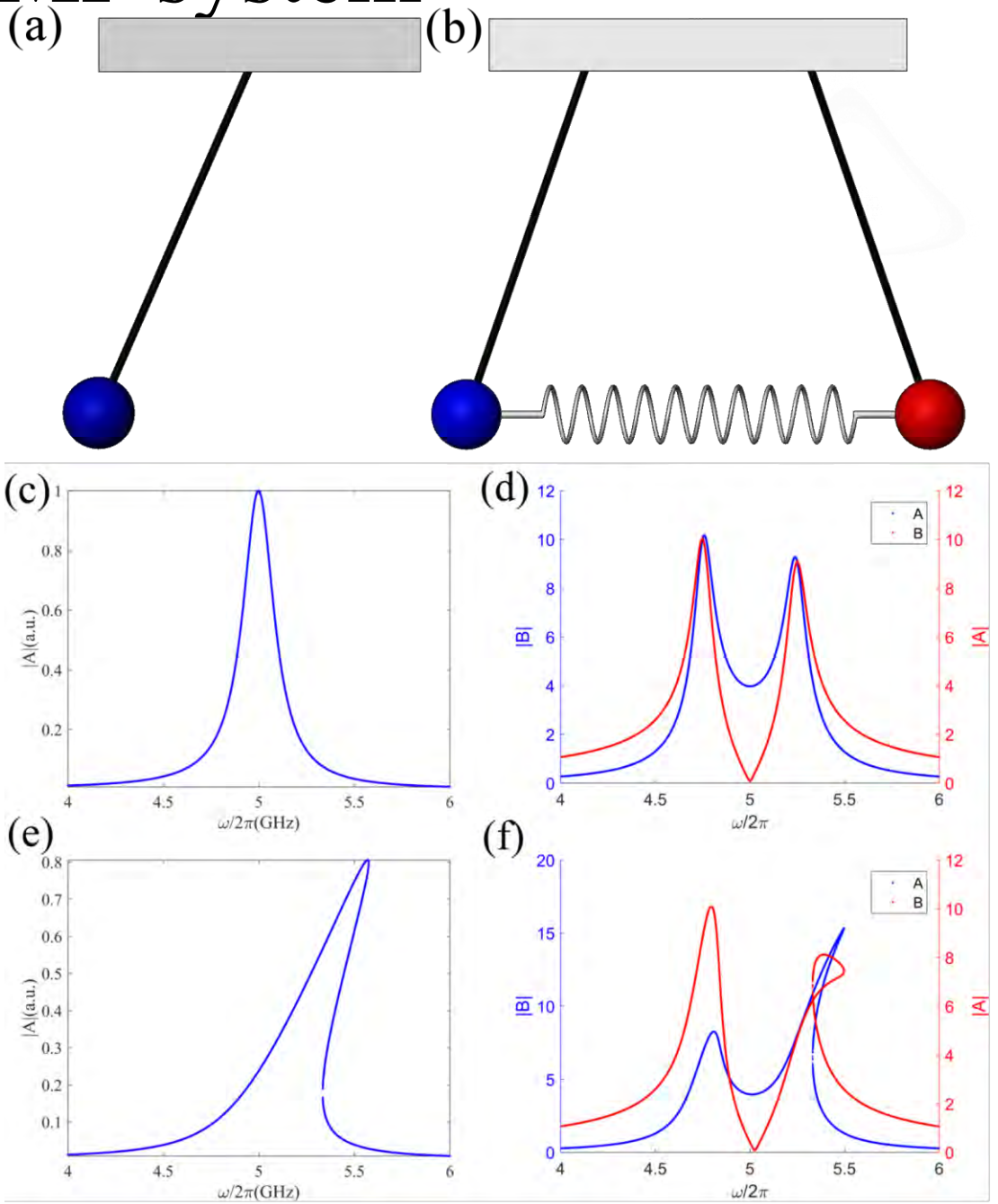
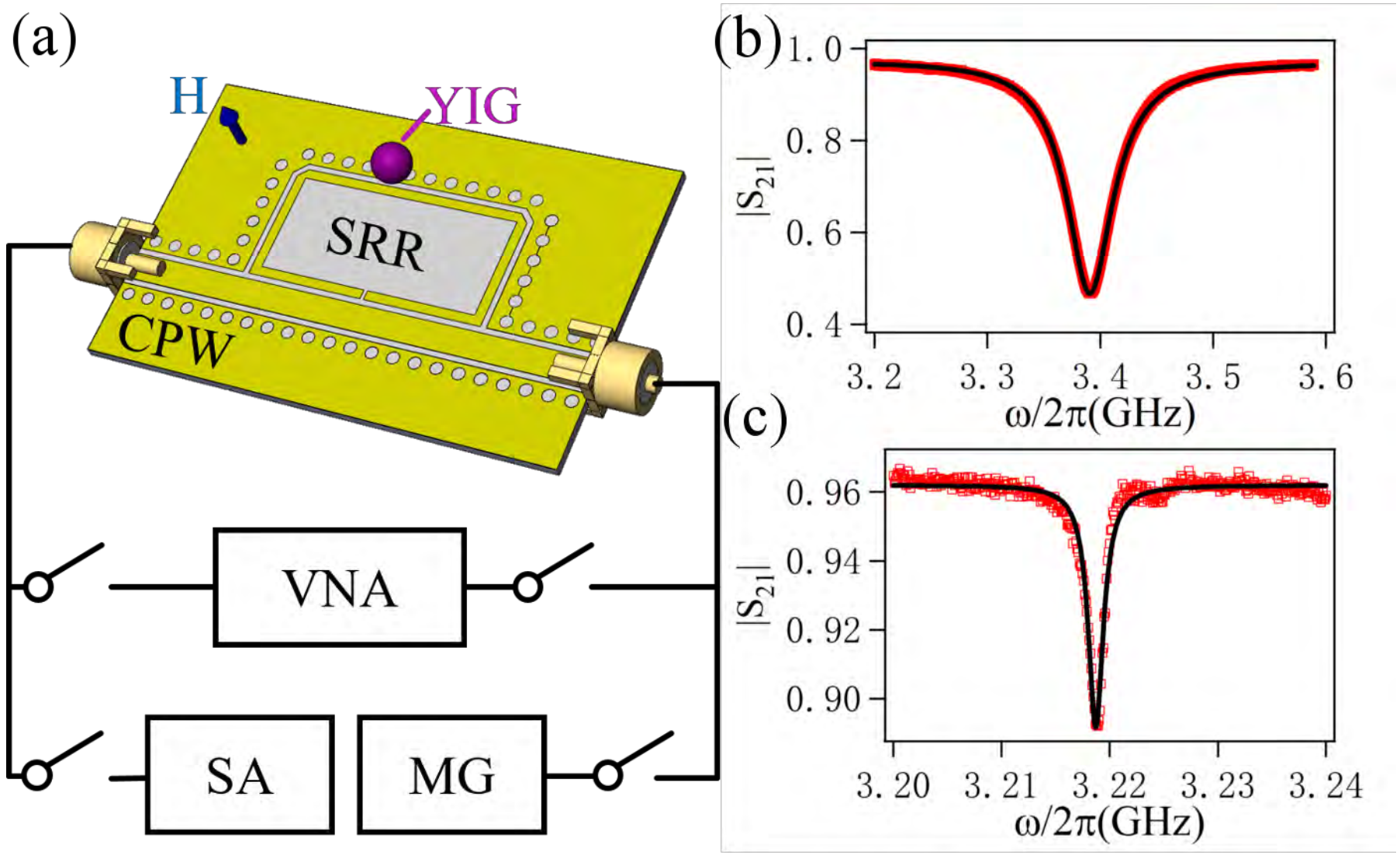
(1) Nonlinear in CMP system
(2) Waves in 1D waveguide cavity

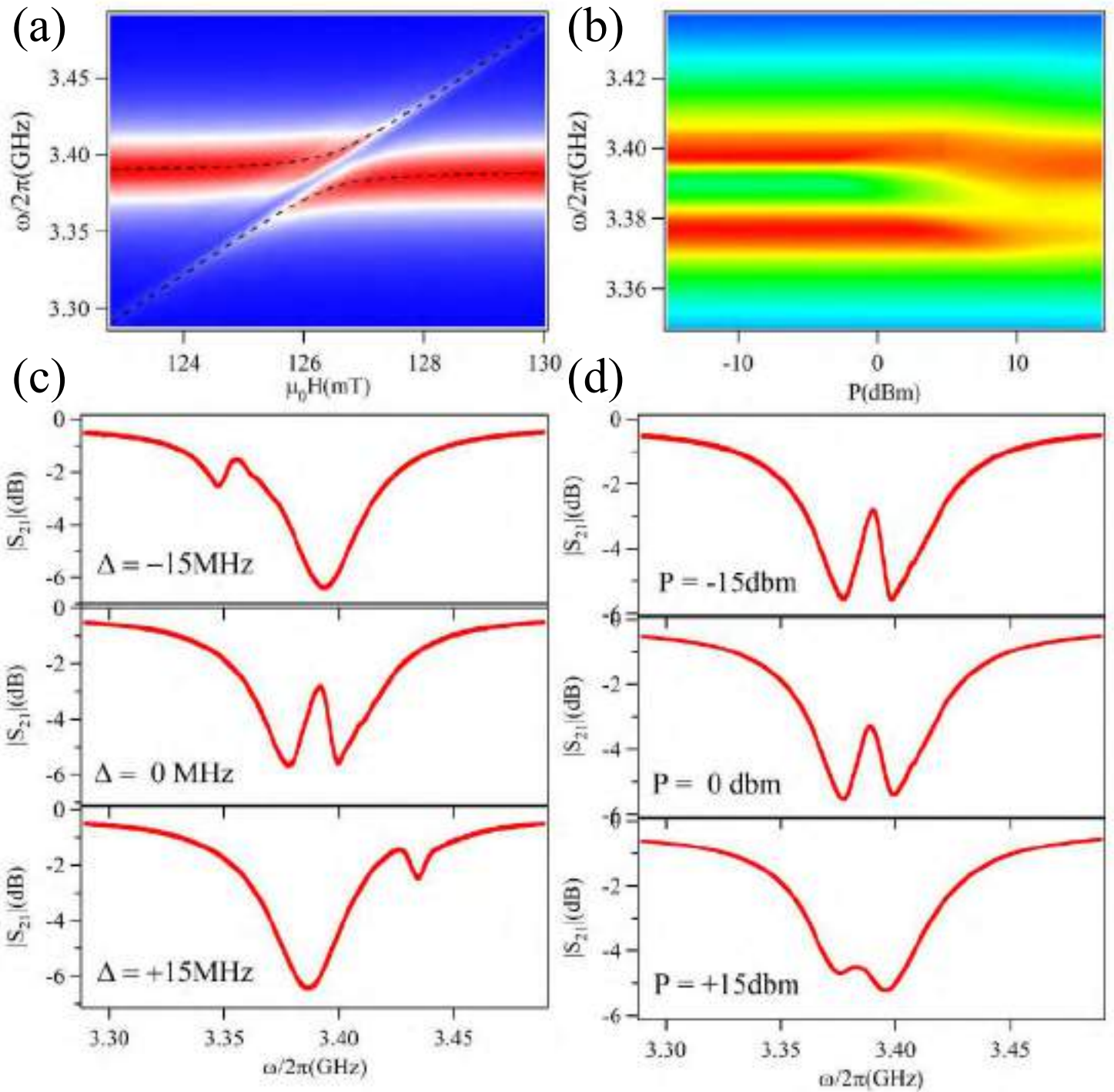
Yutong Zhao

Sept 17th 2018

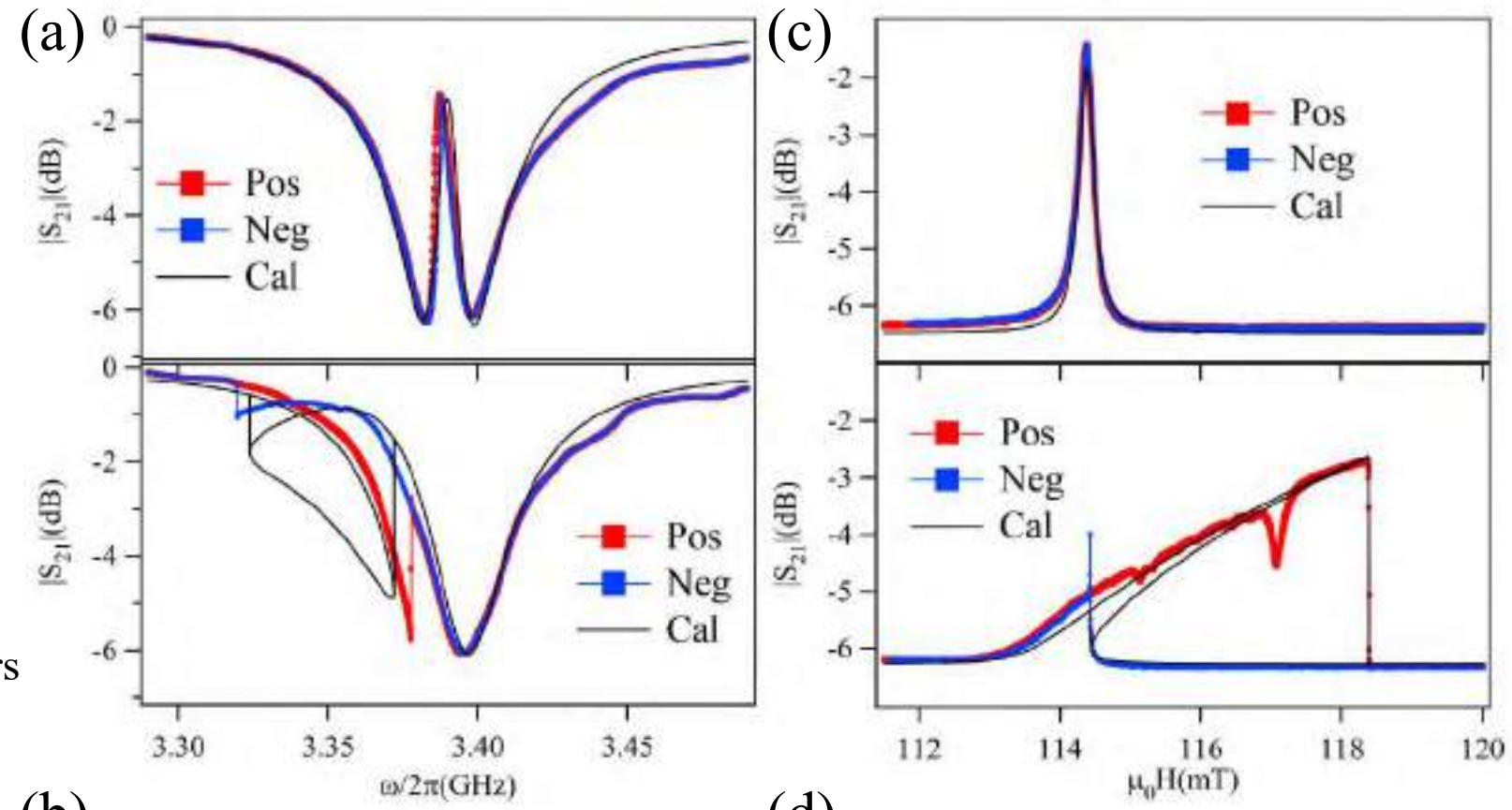
Nonlinear in CMP system

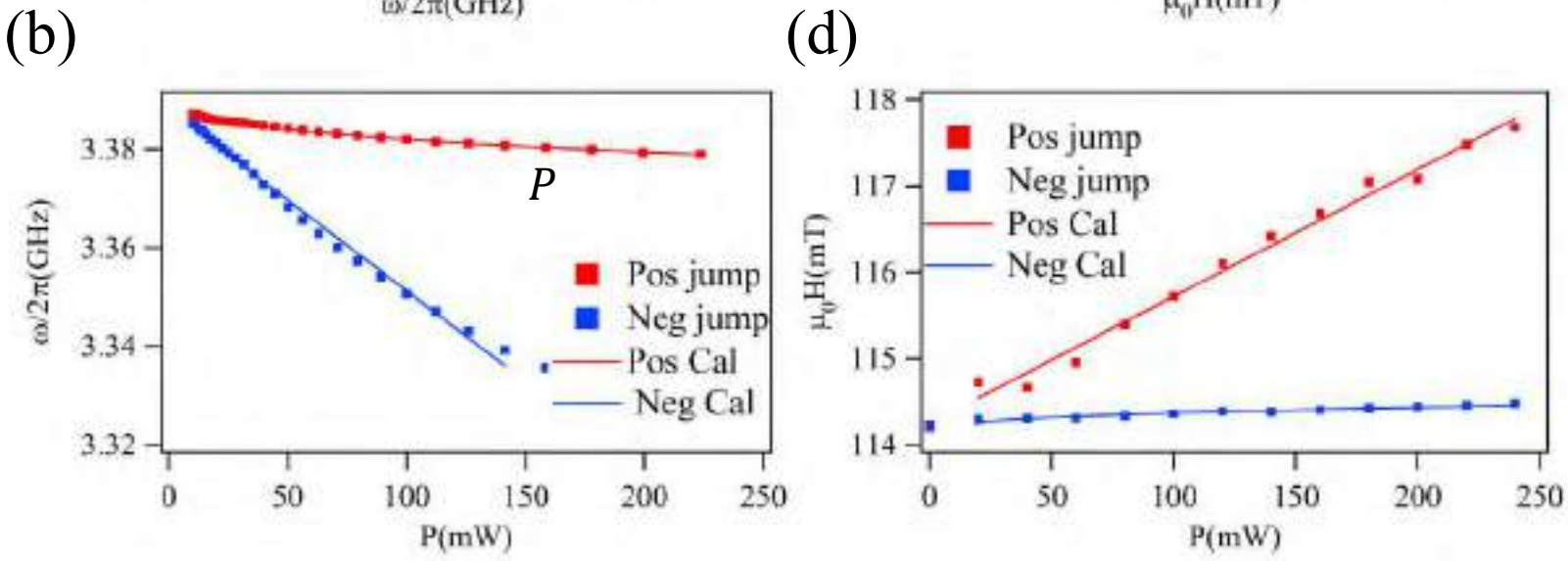


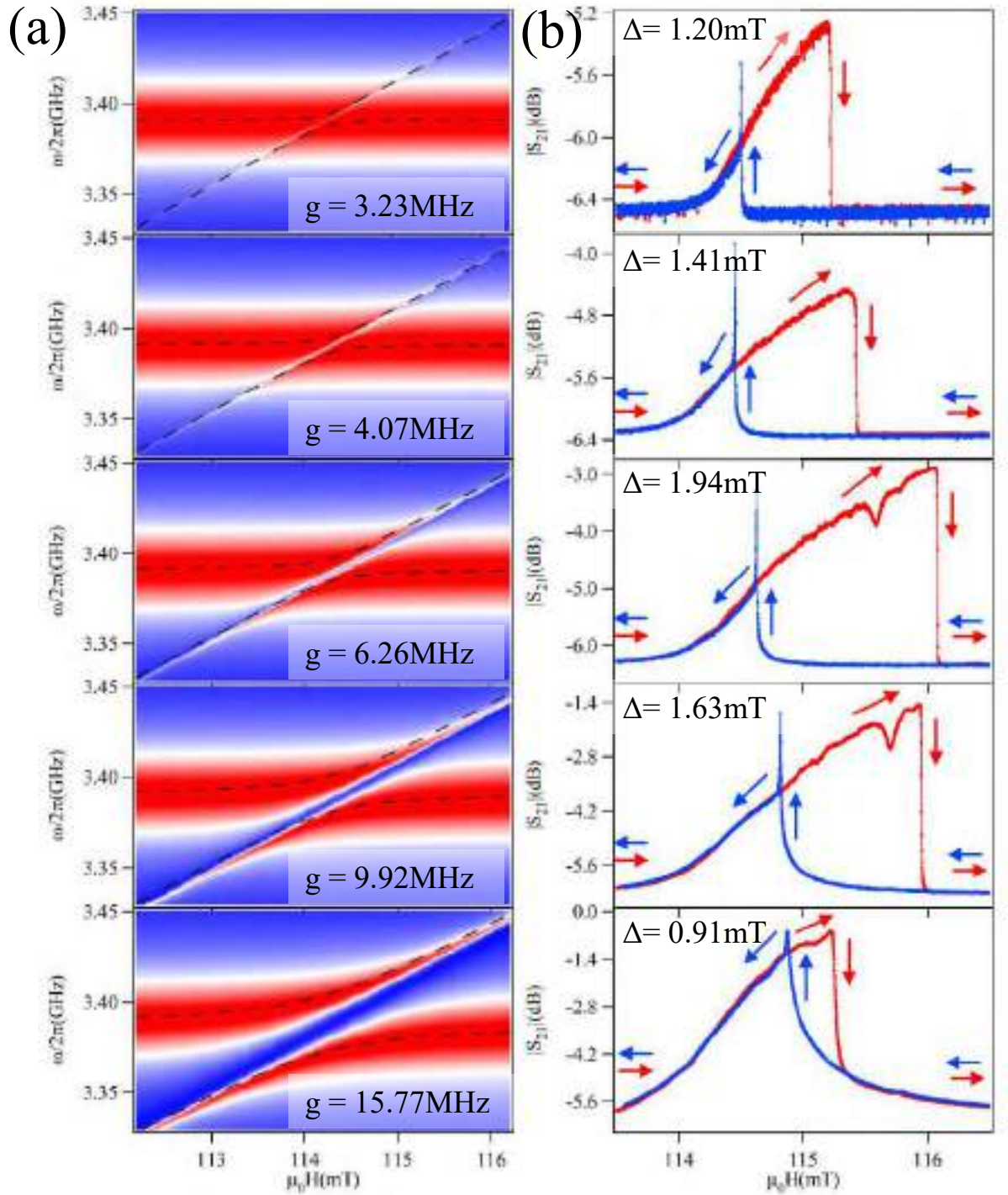

(a)
H
YIG
SRR
CPW
VNA
SA
MG
(b)
1.0
0.8
0.6
0.4
|S21|
3.2
3.3
3.4
3.5
3.6
ω/2π(GHz)
(c)
0.96
0.94
0.92
0.90
|S21|
3.20
3.21
3.22
3.23
3.24
ω/2π(GHz)


(a)
3.45
3.40
3.35
3.30
ω/2π(GHz)
124
126
128
130
μ0H(mT)
(b)
3.42
3.40
3.38
3.36
ω/2π(GHz)
-10
0
10
P(dBm)
(c)
|S21|(dB)
Δ = −15MHz
Δ = 0 MHz
Δ = +15MHz
3.30
3.35
3.40
3.45
ω/2π(GHz)
(d)
|S21|(dB)
P = -15dbm
P = 0 dbm
P = +15dbm
3.30
3.35
3.40
3.45
ω/2π(GHz)

Improve:
Adjust parameters

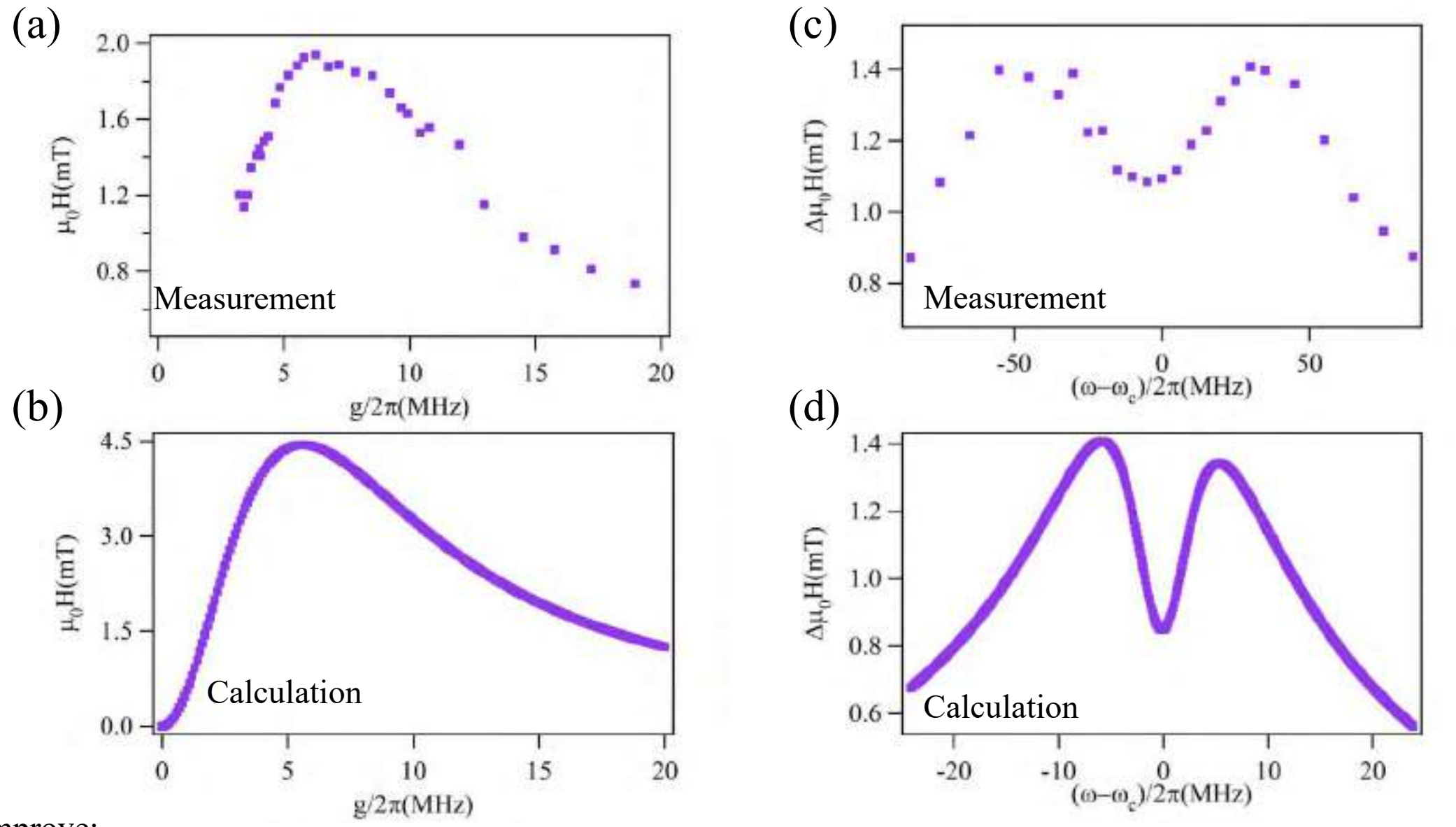





(a)
(b)
g = 3.23MHz
g = 4.07MHz
g = 6.26MHz
g = 9.92MHz
g = 15.77MHz
Δ= 1.20mT
Δ= 1.41mT
Δ= 1.94mT
Δ= 1.63mT
Δ= 0.91mT
ω/2π(GHz)
|S21|(dB)
μ0H(mT)

Coupling Strength

Detuning



Improve:

Adjust parameters