Comparison of alternative kriging models

	Matern 5/2	Matern 3/2	Gaussian	exponent.	power exp.
Q2 constant trend	0.9429	0.9394	0.9467	0.8038	0.9402
Q2 1st order poly. trend	0.9508	0.9539	0.9652	0.8948	0.9588

Q2: cross validation Q2 (higher is better)
RMSE/MAE/RMA: external validation RMSE/MAE/RMA (lower is better)

Kriging meta−model estimation (standardized)

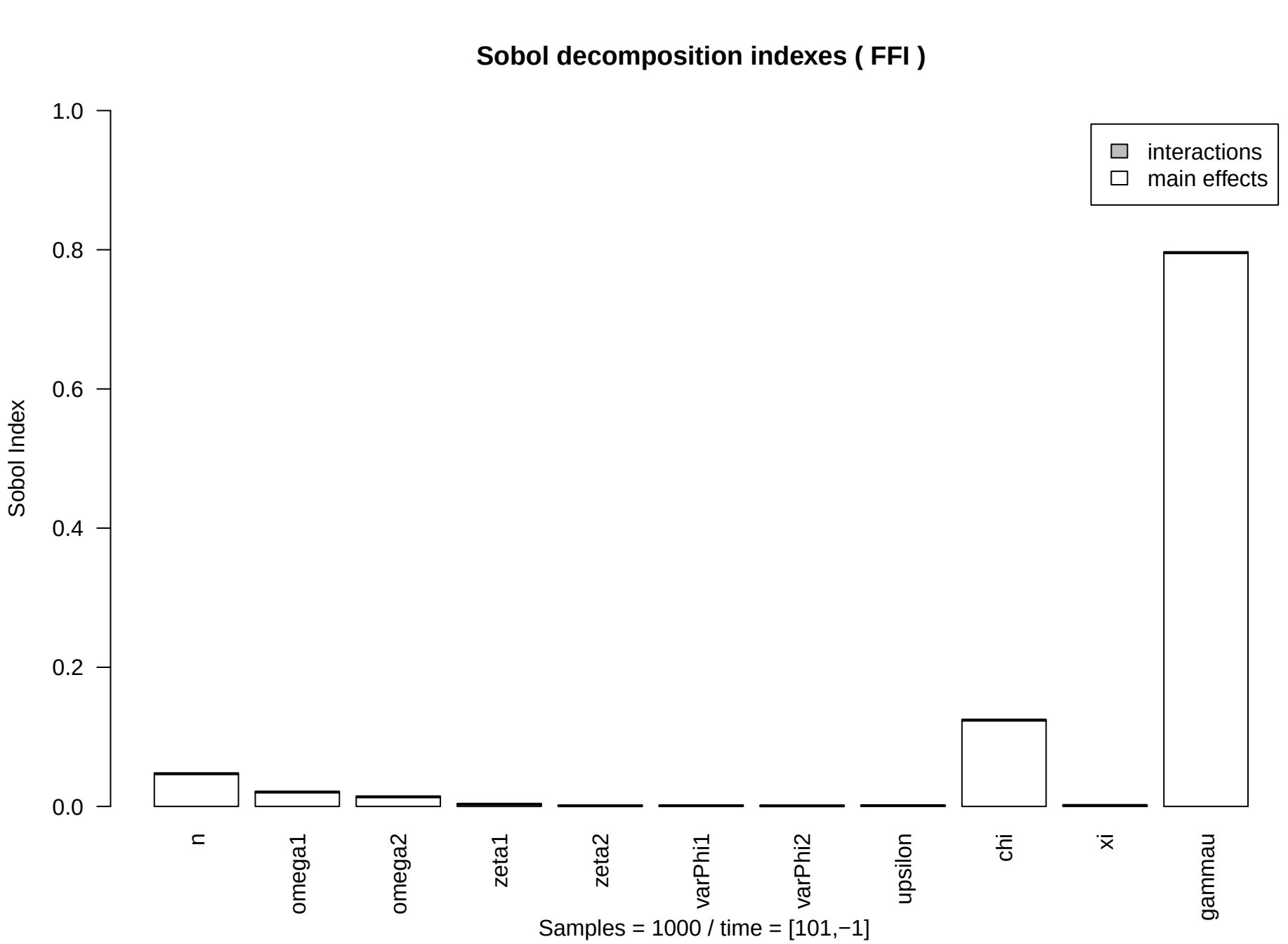
trend(intercept)	0.123	Trend specification	1st order poly.
trend(inclination)	−0.079	Correlation function	Gaussian
theta(n)	1.465	Cross−sample Q2	0.965
theta(omega1)	1.446	External RMSE	NA
theta(omega2)	1.125	External MAE	NA
theta(zeta1)	1.035	External RMA	NA
theta(zeta2)	0.327	DoE samples	65
theta(varPhi1)	0.759	External samples	NA
theta(varPhi2)	1.298		
theta(upsilon)	1.560		
theta(chi)	0.879		
theta(xi)	1.595		
theta(gammau)	0.196		

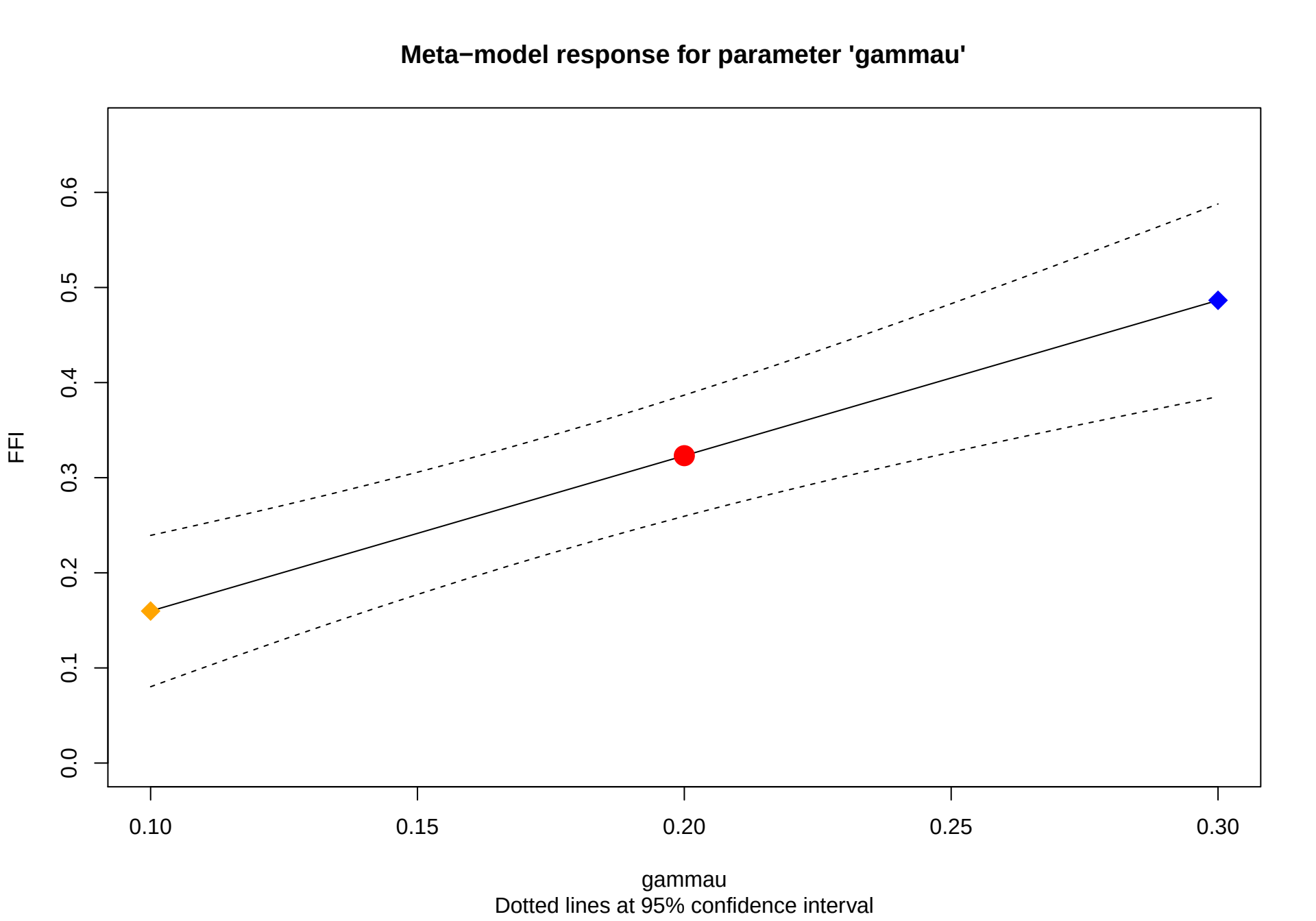
Variables rescaled to [0,1] / Average 95% CI = +/− 0.08
Predicted output at defaults: FFI = 0.32, 95% CI = [0.26,0.39], time = [101,−1]

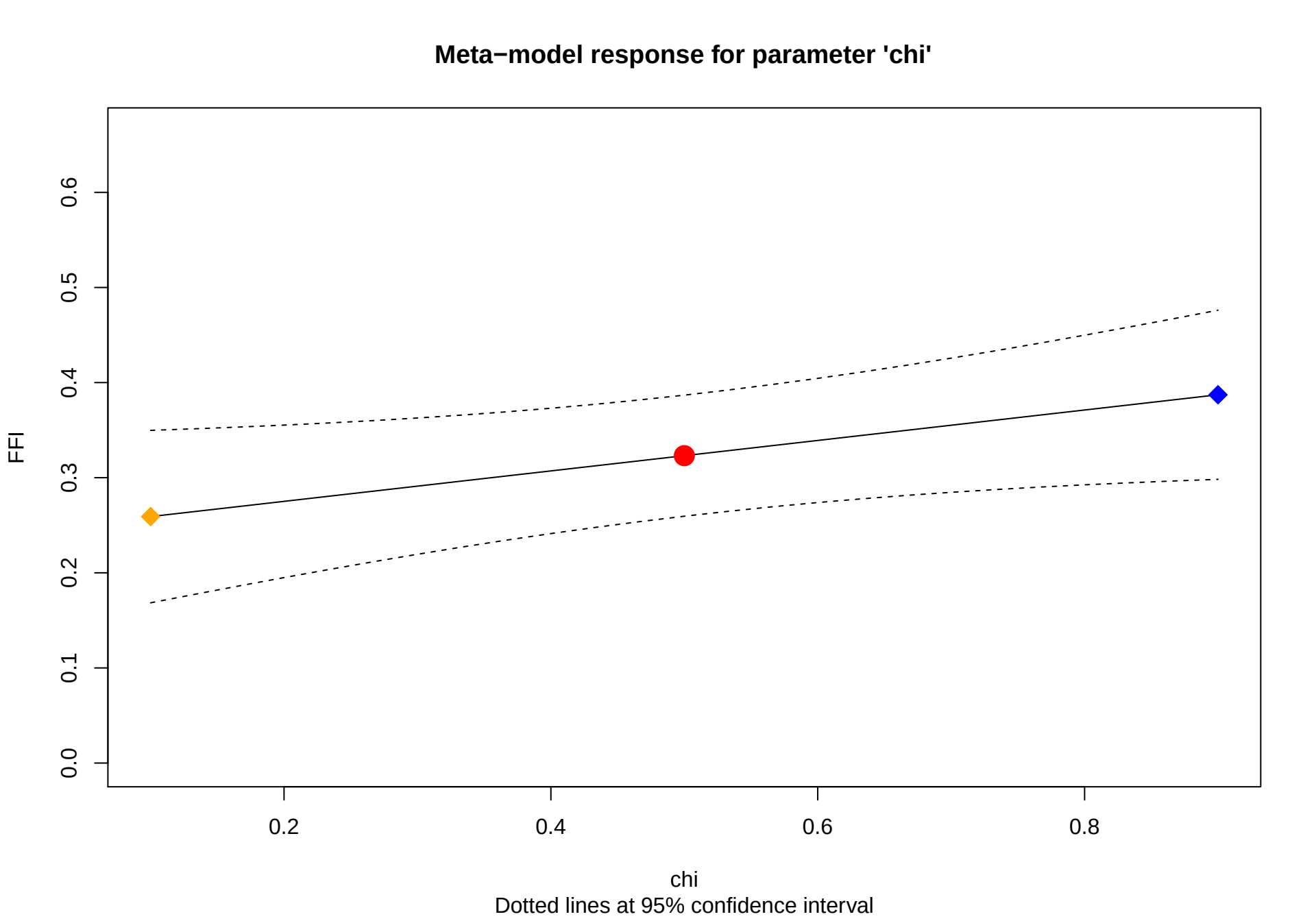
Sobol decomposition indexes (FFI)

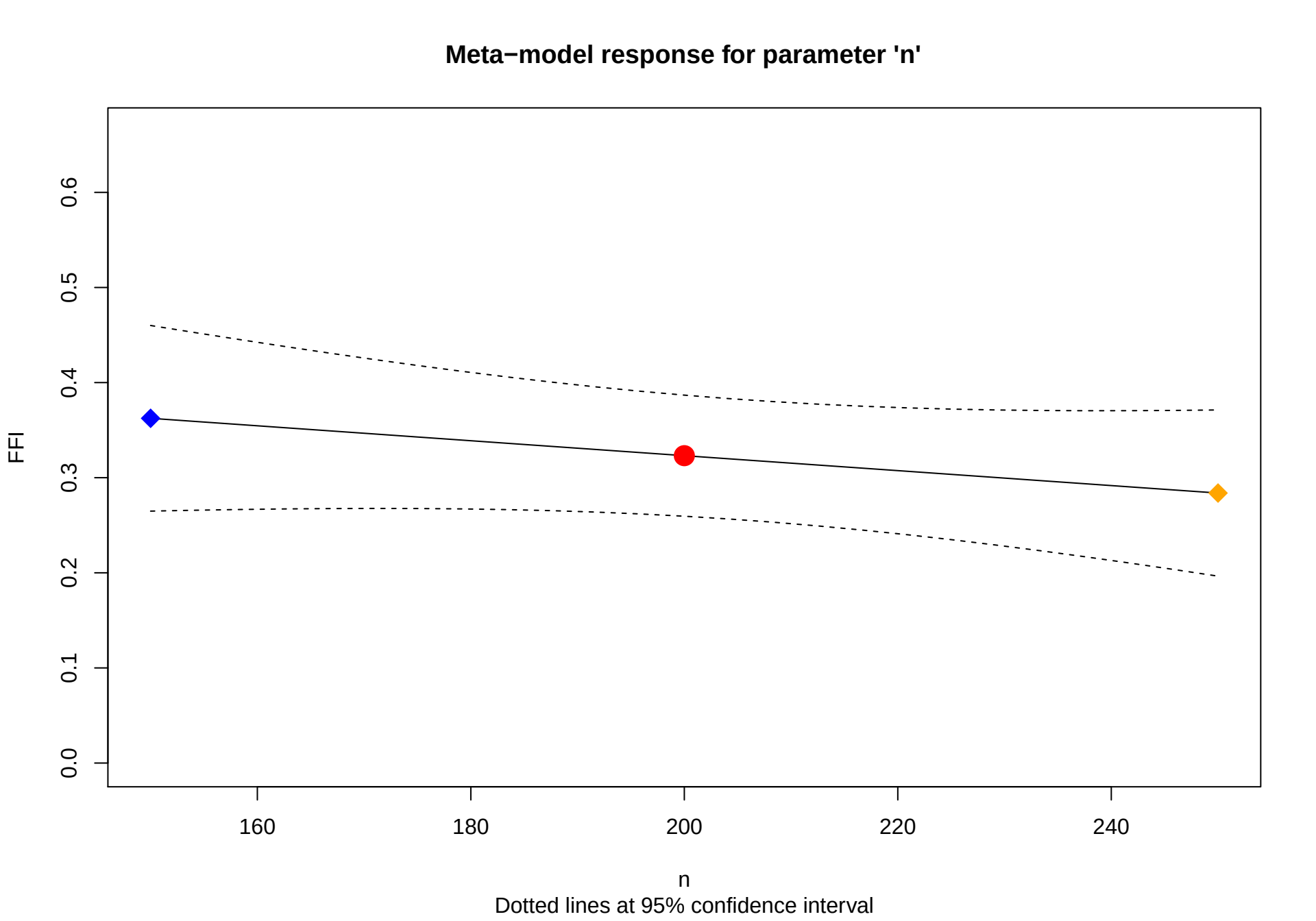
	Direct effects	Interactions
n	0.046	0.002
omega1	0.020	0.002
omega2	0.013	0.002
zeta1	0.002	0.002
zeta2	0.000	0.002
varPhi1	0.000	0.002
varPhi2	0.000	0.002
upsilon	0.000	0.002
chi	0.123	0.002
xi	0.000	0.002
gammau	0.795	0.002

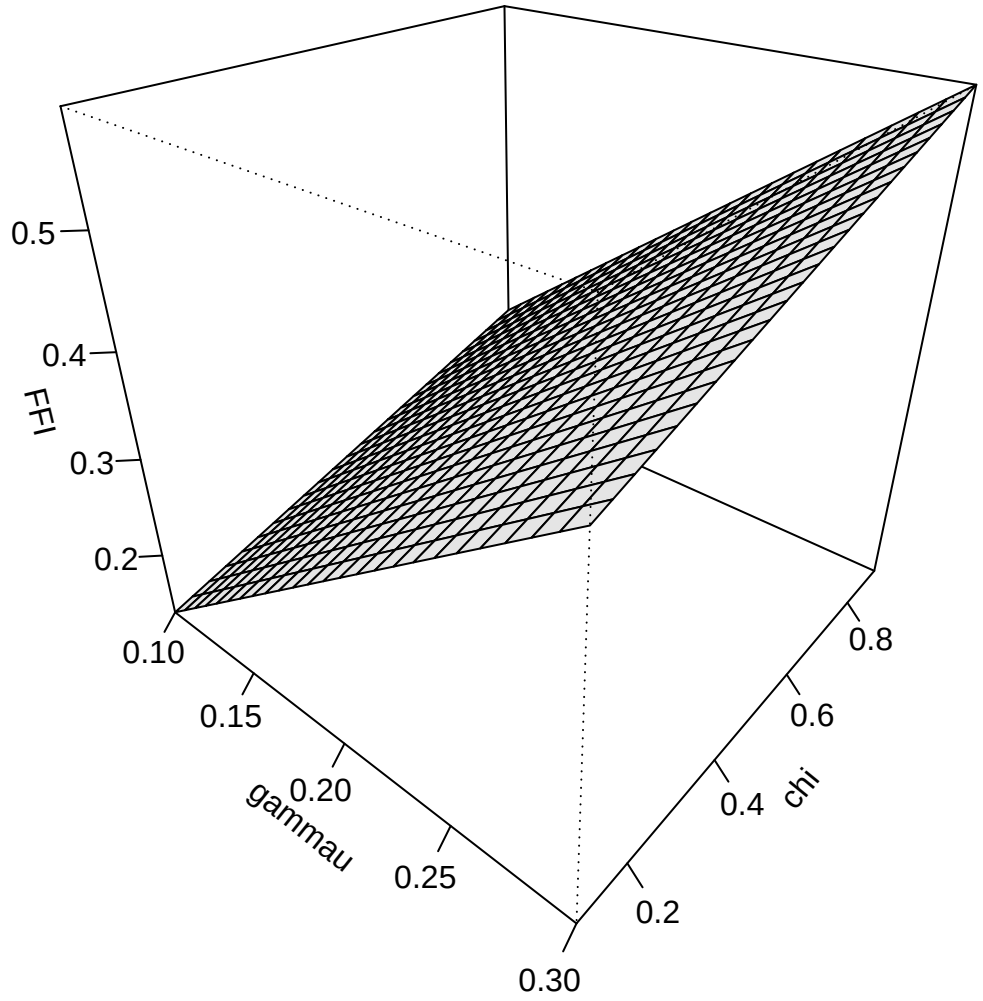
Samples = 1000 / time = [101,−1]

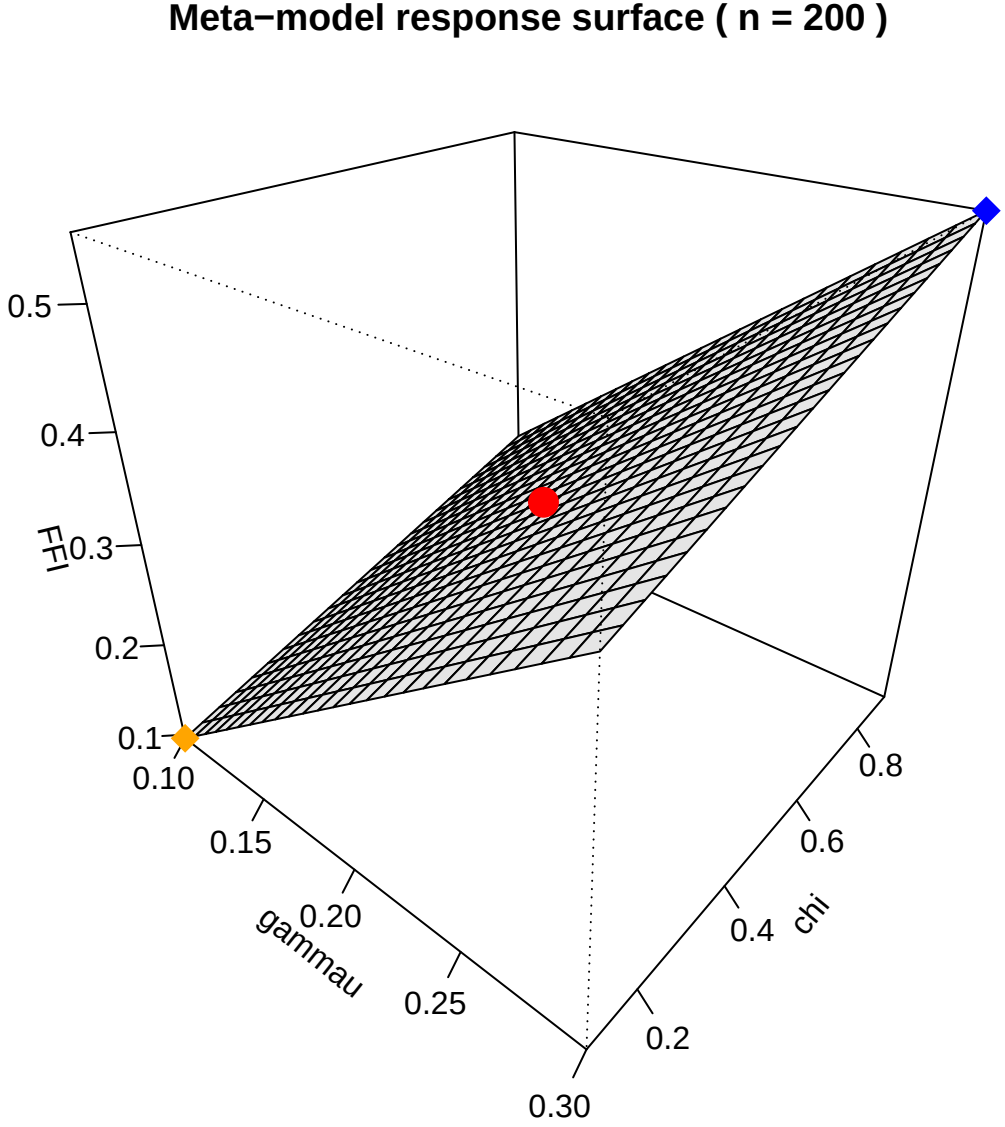

Sobol decomposition indexes (FFI)
interactions
main effects
Sobol Index
1.0
0.8
0.6
0.4
0.2
0.0
n
omega1
omega2
zeta1
zeta2
varPhi1
varPhi2
upsilon
chi
xi
gammau
Samples = 1000 / time = [101,−1]

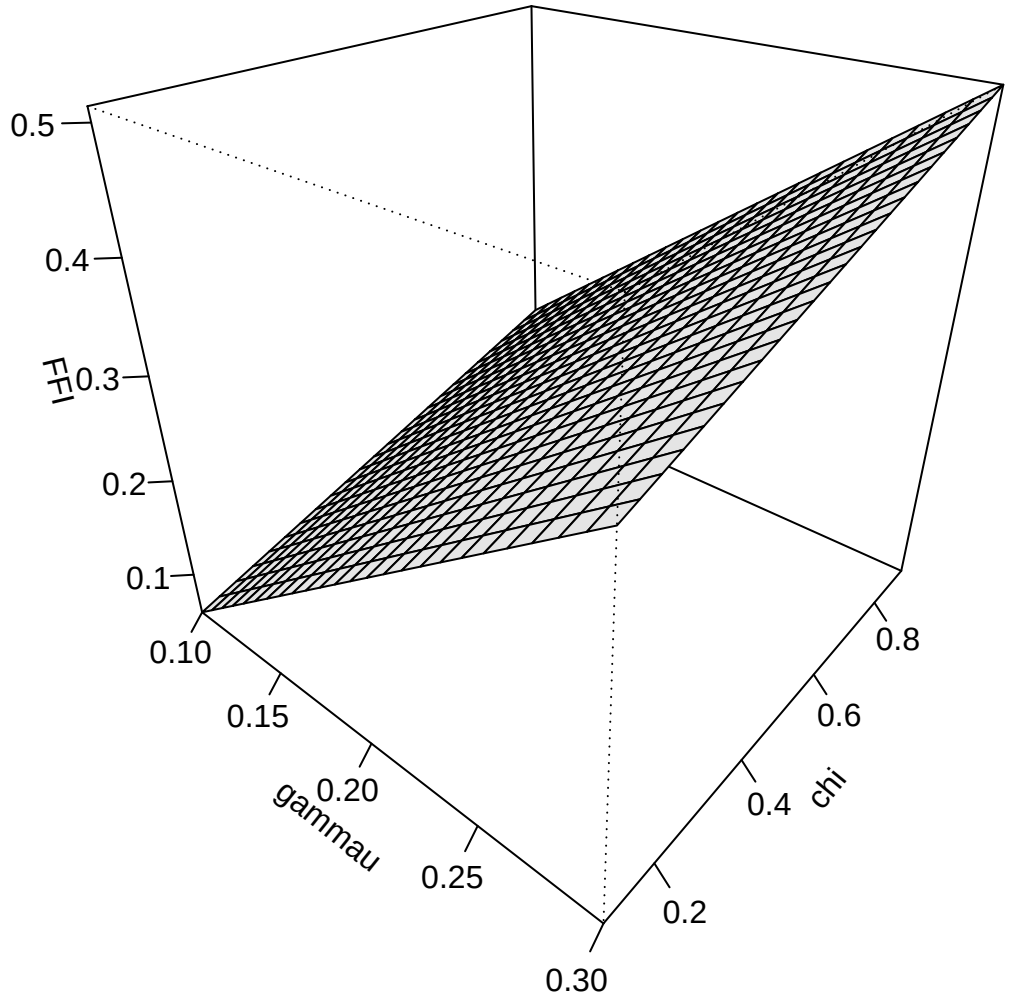

Meta−model response for parameter 'gammau'
FFI
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.10
0.15
0.20
0.25
0.30
gammau
Dotted lines at 95% confidence interval

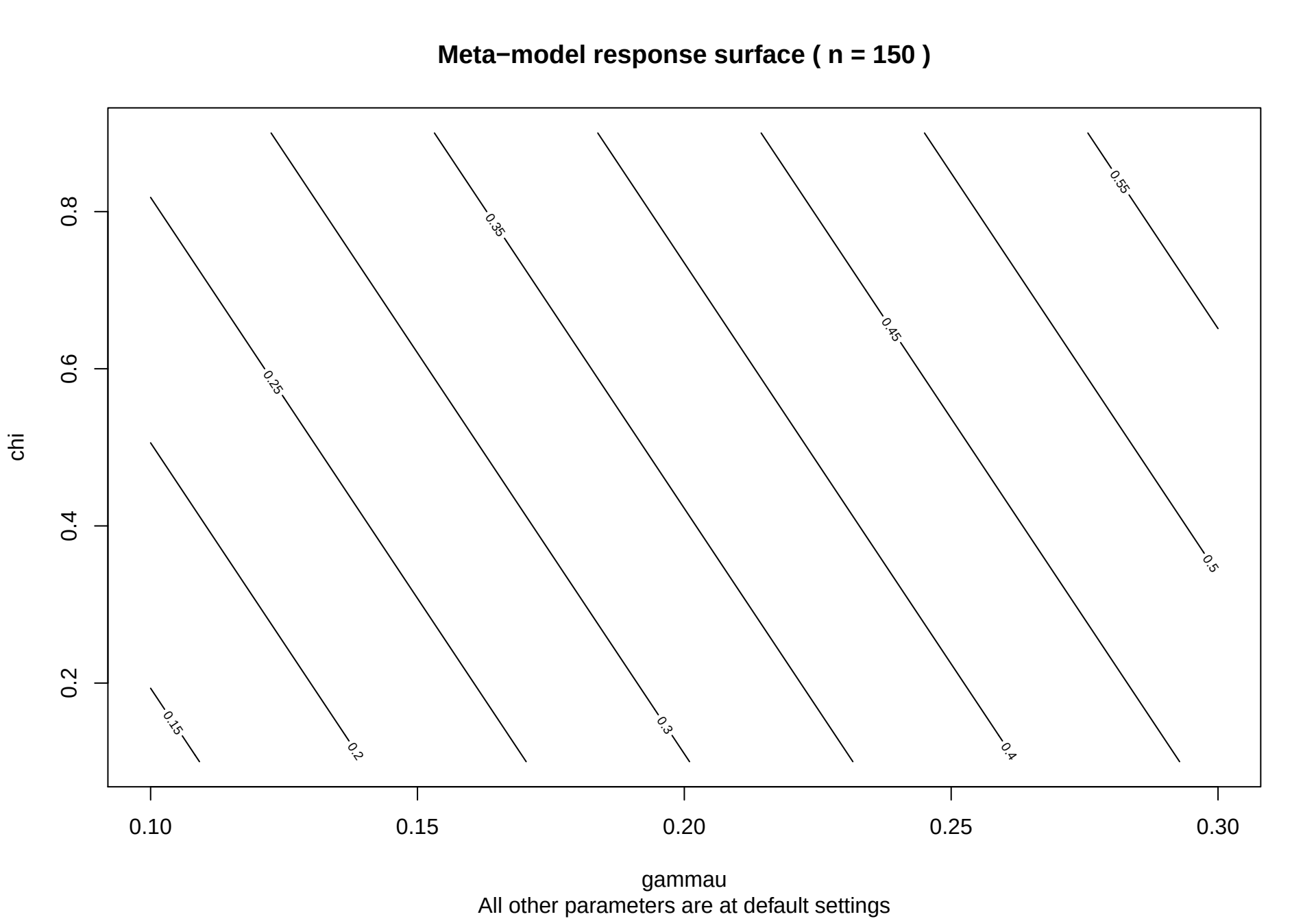

Meta−model response for parameter 'chi'
FFI
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.2
0.4
0.6
0.8
chi
Dotted lines at 95% confidence interval

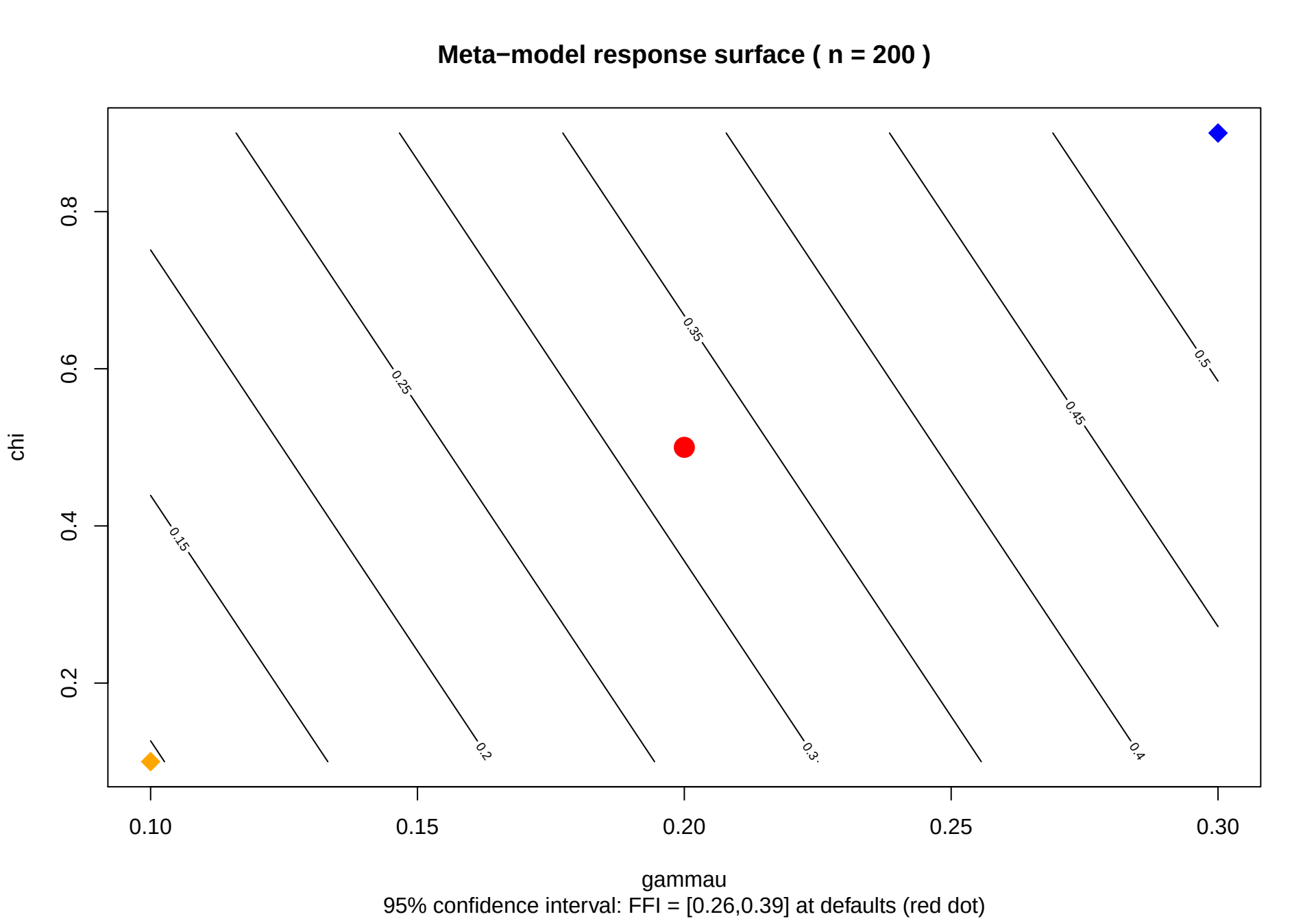

Meta−model response for parameter 'n'
FFI
0.0
0.1
0.2
0.3
0.4
0.5
0.6
160
180
200
220
240
n
Dotted lines at 95% confidence interval

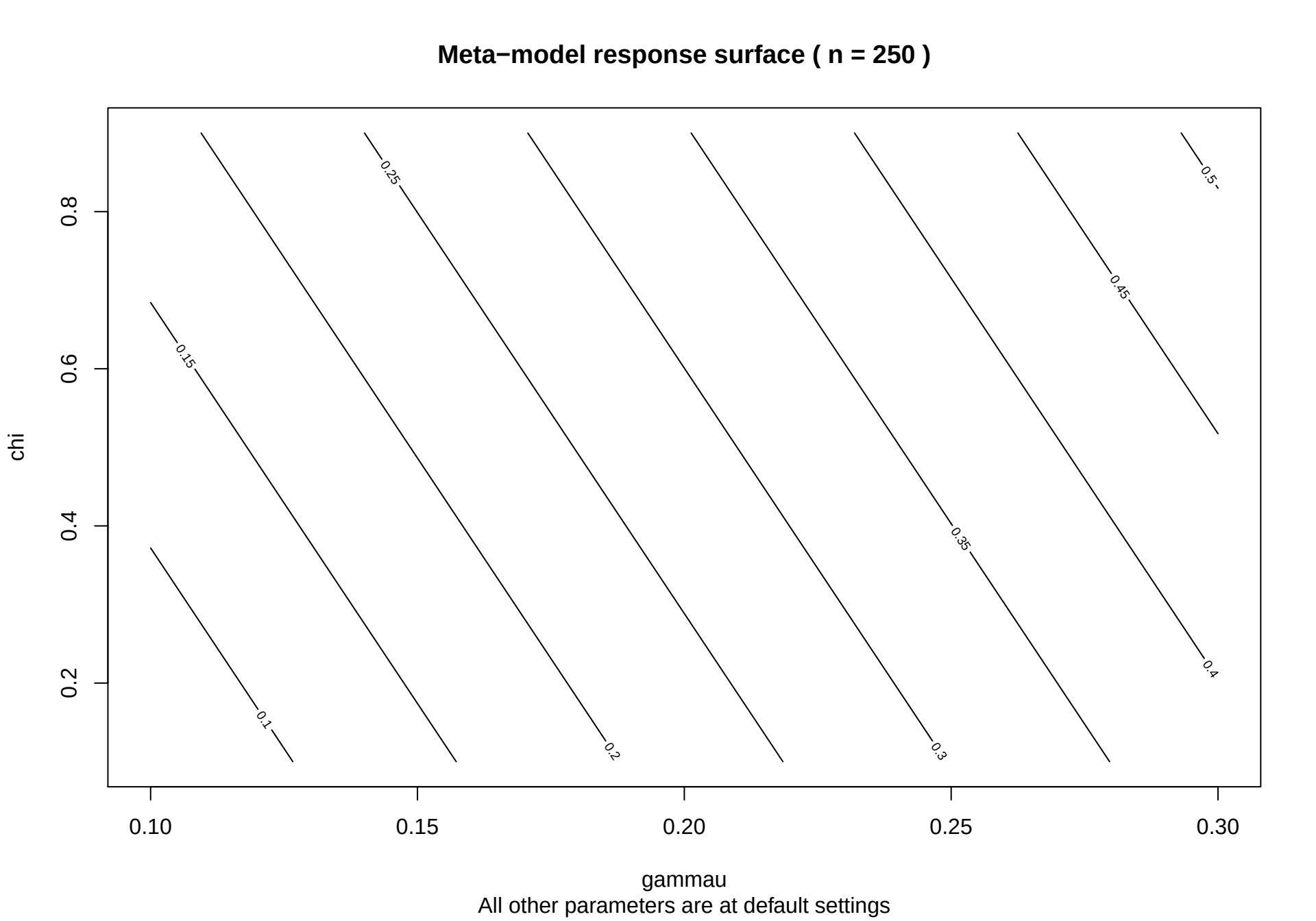

Meta−model response surface (n = 150)
FFI
0.5
0.4
0.3
0.2
gammau
0.10
0.15
0.20
0.25
0.30
chi
0.2
0.4
0.6
0.8
All other parameters are at default settings


Meta−model response surface (n = 200)
FFI
0.5
0.4
0.3
0.2
0.1
gammau
0.10
0.15
0.20
0.25
0.30
chi
0.2
0.4
0.6
0.8
95% confidence interval: FFI = [0.26,0.39] at defaults (red dot)


Meta−model response surface (n = 250)
FFI
0.5
0.4
0.3
0.2
0.1
gammau
0.10
0.15
0.20
0.25
0.30
chi
0.2
0.4
0.6
0.8
All other parameters are at default settings


Meta−model response surface (n = 150)
chi
0.2
0.4
0.6
0.8
0.10
0.15
0.20
0.25
0.30
gammau
All other parameters are at default settings
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0.55


Meta−model response surface (n = 200)
chi
0.2
0.4
0.6
0.8
0.10
0.15
0.20
0.25
0.30
gammau
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
95% confidence interval: FFI = [0.26,0.39] at defaults (red dot)


Meta−model response surface (n = 250)
chi
0.2
0.4
0.6
0.8
0.10
0.15
0.20
0.25
0.30
gammau
All other parameters are at default settings
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5