Comparison of alternative kriging models

	Matern 5/2	Matern 3/2	Gaussian	exponent.	power exp.
Q2 constant trend	0.7997	0.7903	0.7907	0.6404	0.7904
Q2 1st order poly. trend	0.7719	0.8299	0.7120	0.7570	0.8645
RMSE constant trend	0.0919	0.0919	0.0710	0.0919	0.0919
RMSE 1st order poly. trend	0.0402	0.0402	0.0402	0.0402	0.0402
MAE constant trend	0.0782	0.0782	0.0608	0.0782	0.0782
MAE 1st order poly. trend	0.0330	0.0330	0.0330	0.0330	0.0330
RMA constant trend	1.3694	1.3694	1.3487	1.3694	1.3694
RMA 1st order poly. trend	0.8762	0.8762	0.8762	0.8762	0.8762

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

Kriging meta−model estimation (standardized)

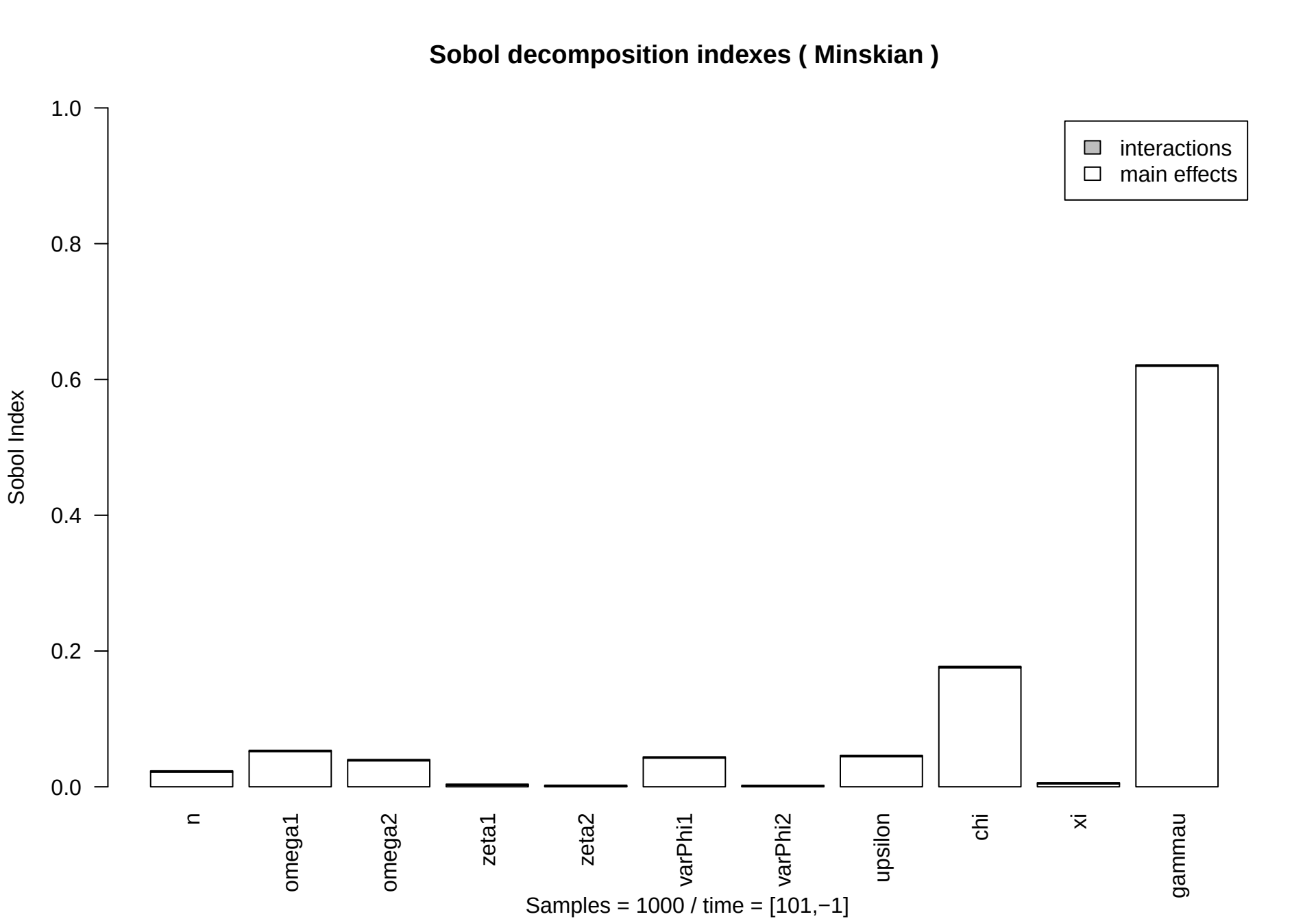
trend(intercept)	0.058	Trend specification	1st order poly.
trend(inclination)	−0.050	Correlation function	power exp.
theta(n)	1.398	Cross−sample Q2	0.865
theta(omega1)	0.201	External RMSE	0.040
theta(omega2)	1.317	External MAE	0.033
theta(zeta1)	1.459	External RMA	0.876
theta(zeta2)	0.254	DoE samples	65
theta(varPhi1)	0.295	External samples	10
theta(varPhi2)	0.860		
theta(upsilon)	1.123		
theta(chi)	1.489		
theta(xi)	0.820		
theta(gammau)	1.592		

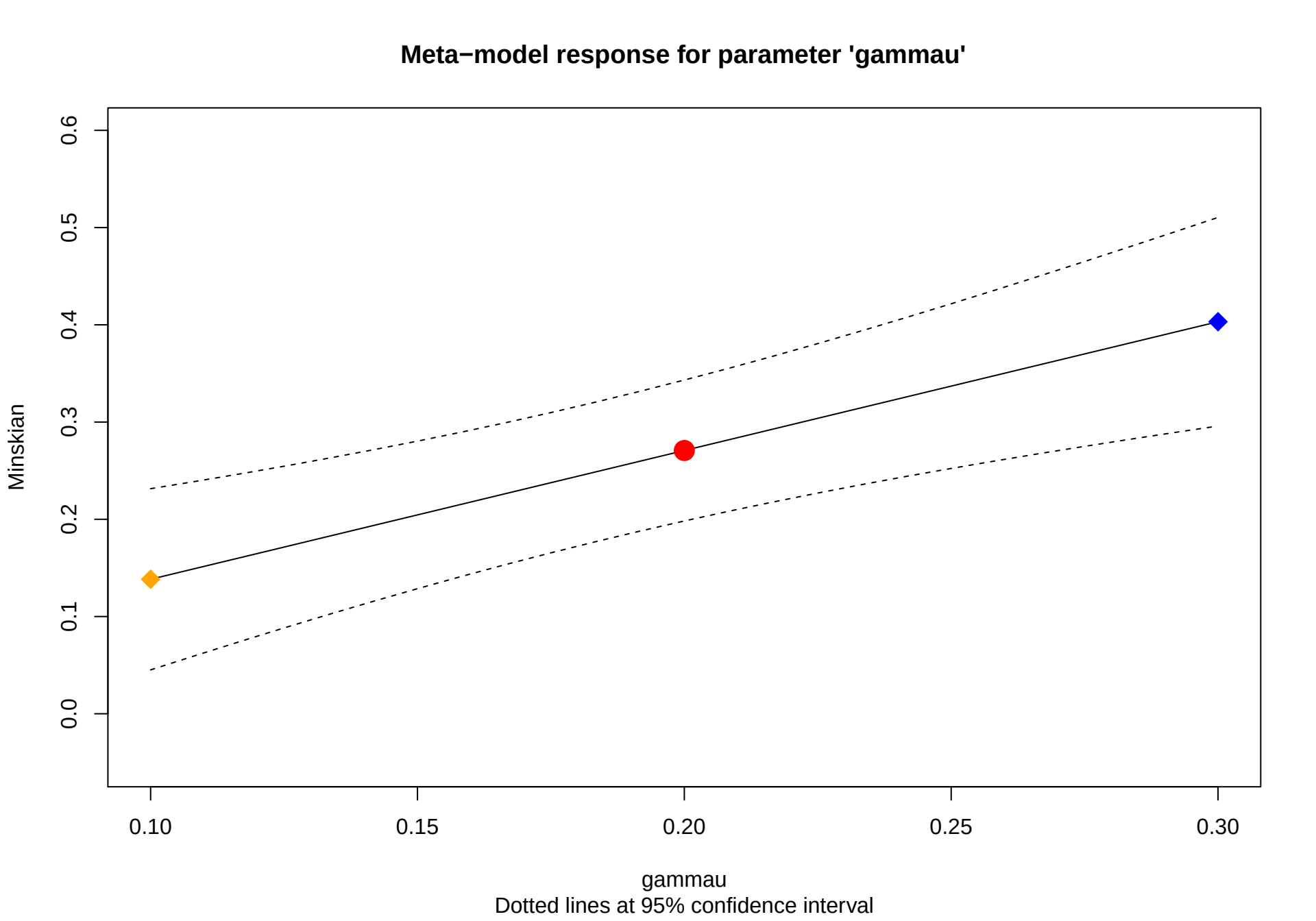
Variables rescaled to [0,1] / Average 95% CI = +/− 0.09
Predicted output at defaults: Minskian = 0.27, 95% CI = [0.2,0.34], time = [101,−1]

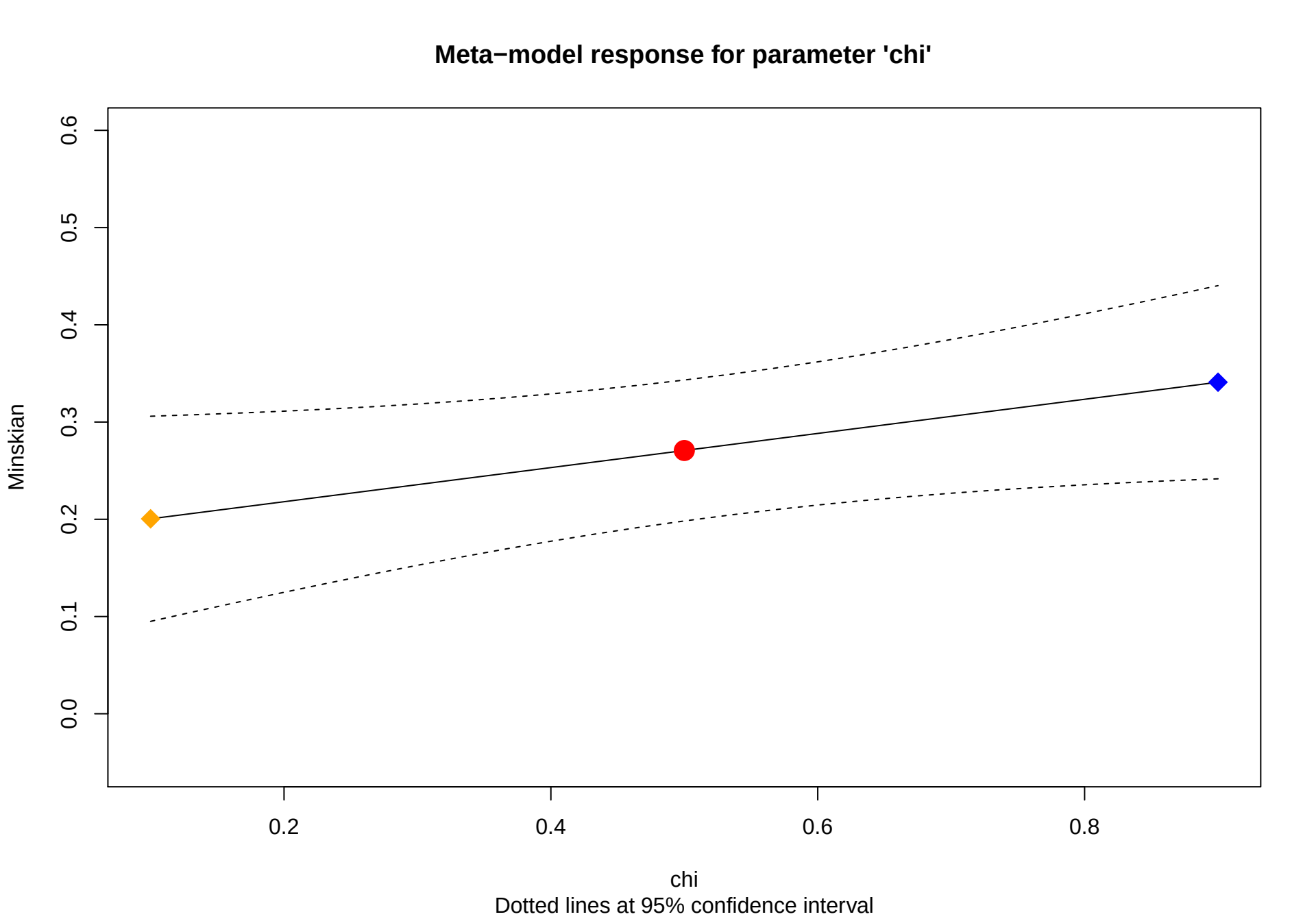
Sobol decomposition indexes (Minskian)

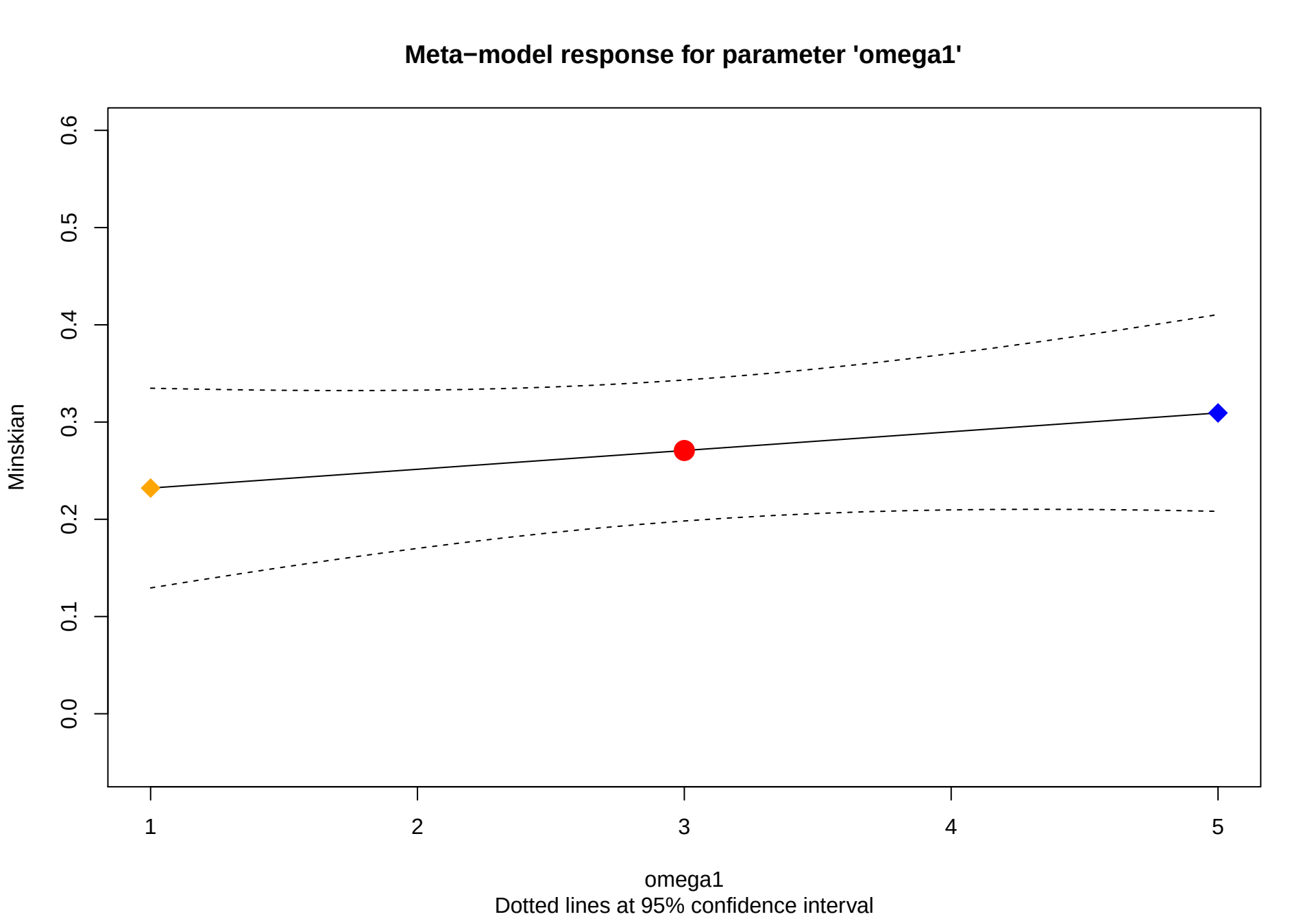
	Direct effects	Interactions
n	0.022	0.002
omega1	0.052	0.002
omega2	0.038	0.002
zeta1	0.002	0.002
zeta2	0.001	0.002
varPhi1	0.042	0.002
varPhi2	0.001	0.002
upsilon	0.044	0.002
chi	0.175	0.002
xi	0.004	0.002
gammau	0.620	0.002

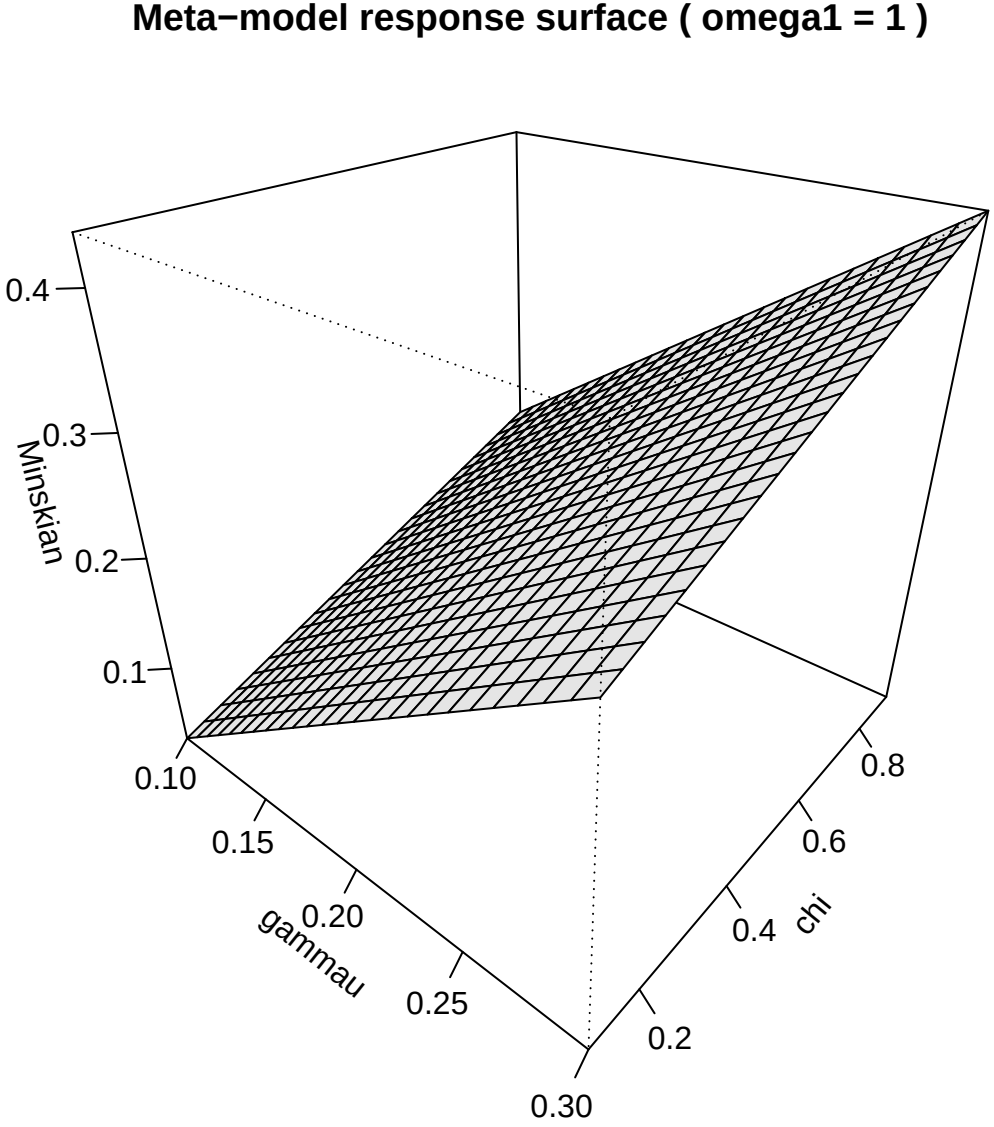
Samples = 1000 / time = [101,−1]

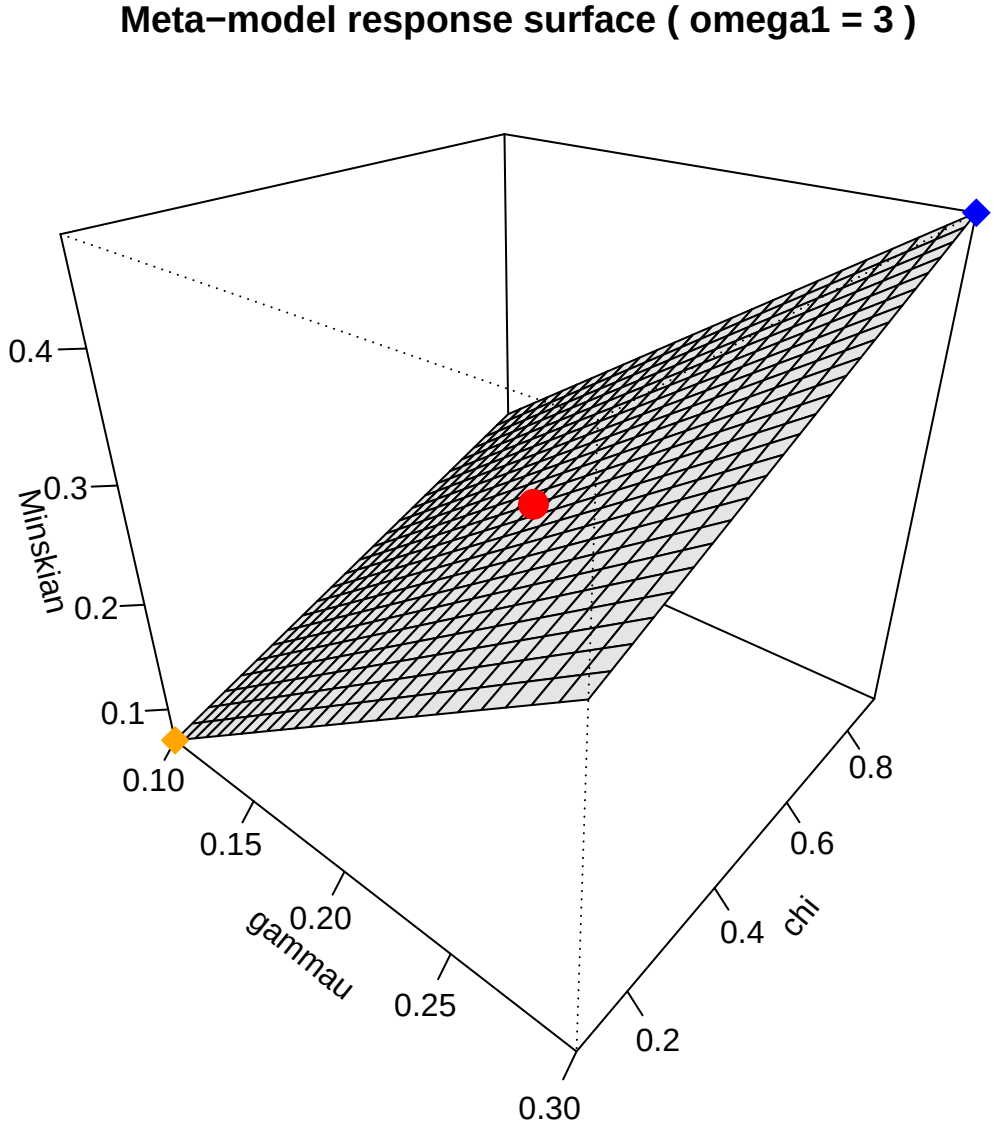

Sobol decomposition indexes (Minskian)
interactions
main effects
Sobol Index
1.0
0.8
0.6
0.4
0.2
0.0
n
omega1
omega2
zeta1
zeta2
varPhi1
varPhi2
upsilon
chi
xi
gammau
Samples = 1000 / time = [101,−1]

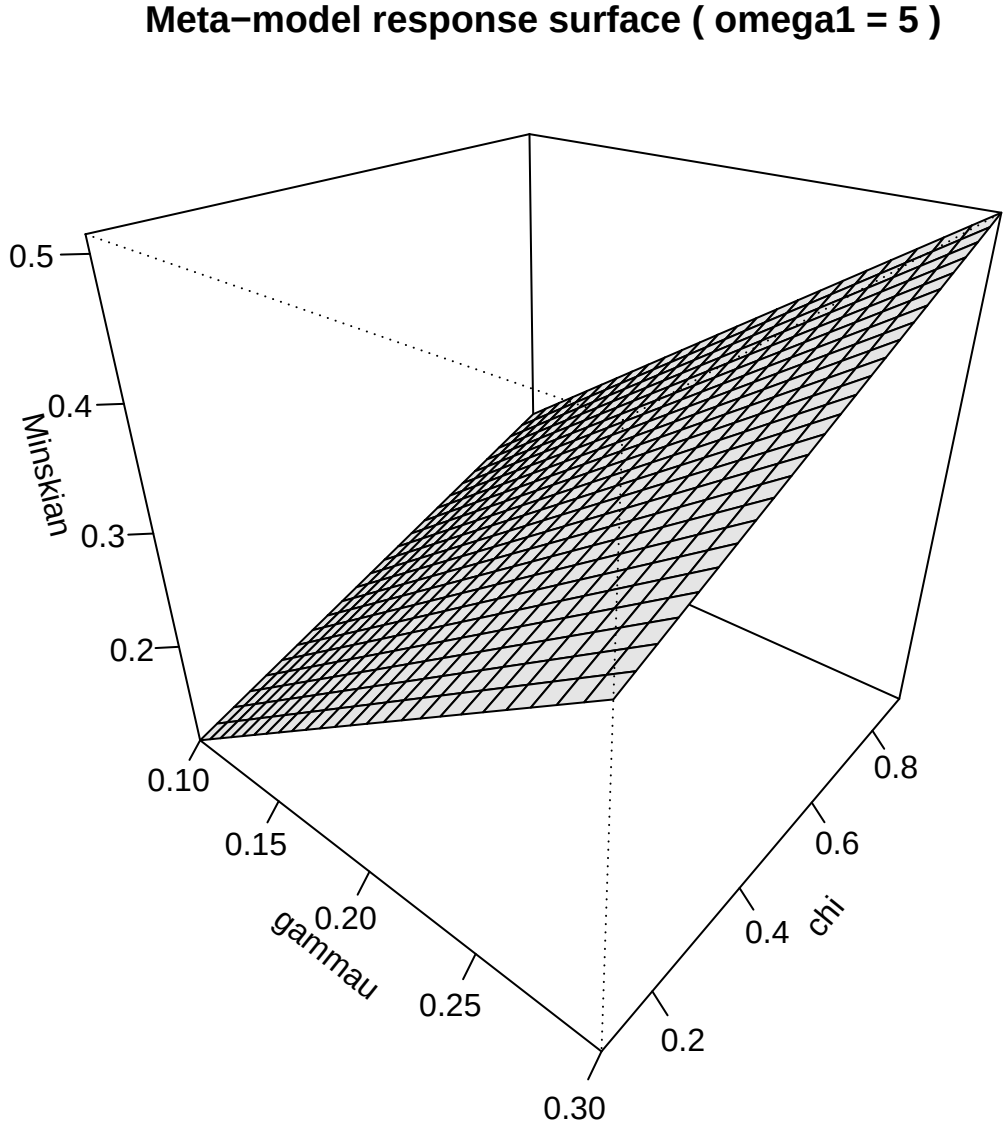

Meta−model response for parameter 'gammau'
Minskian
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.10
0.15
0.20
0.25
0.30
gammau
Dotted lines at 95% confidence interval

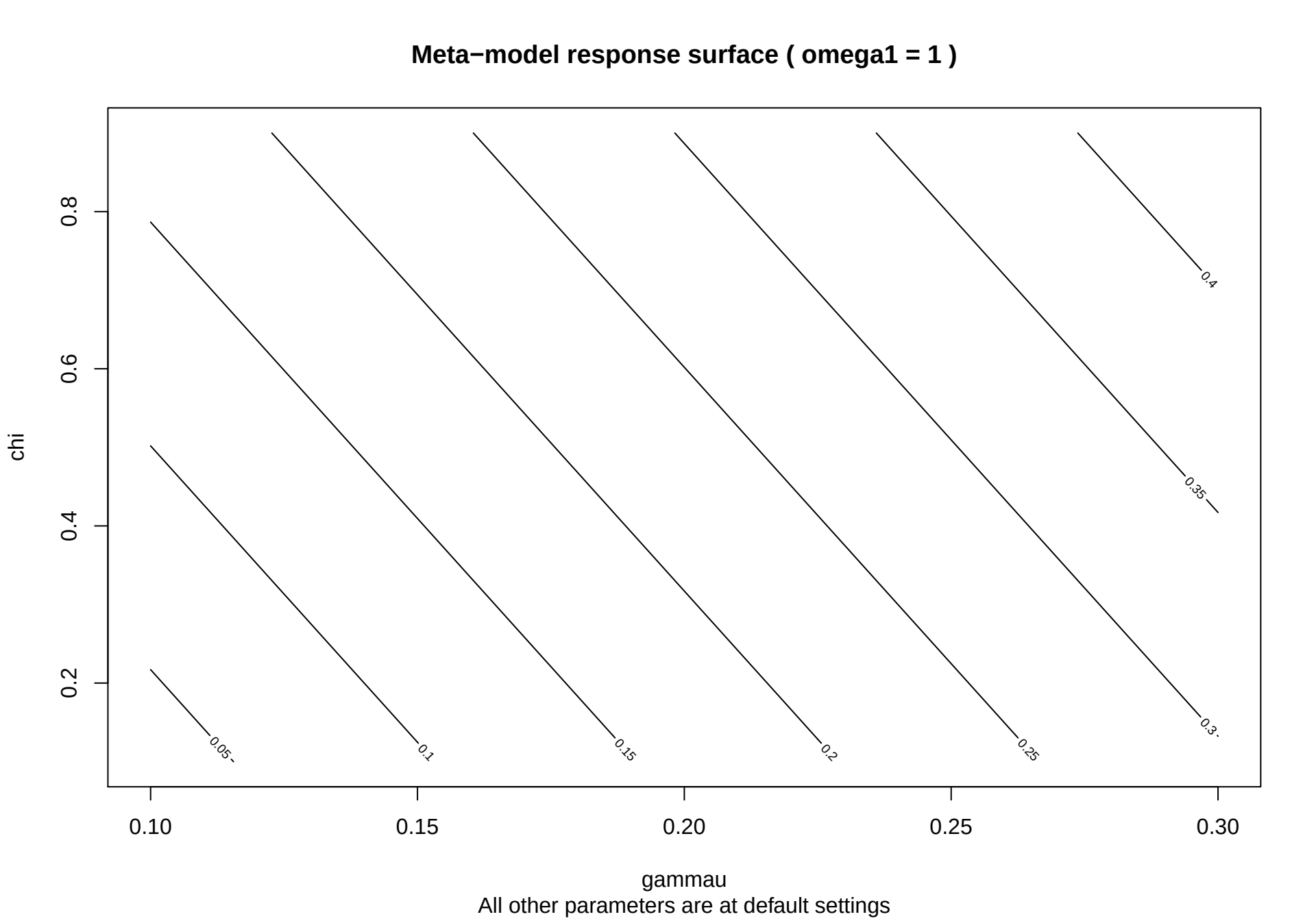

Meta−model response for parameter 'chi'
Minskian
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.2
0.4
0.6
0.8
chi
Dotted lines at 95% confidence interval

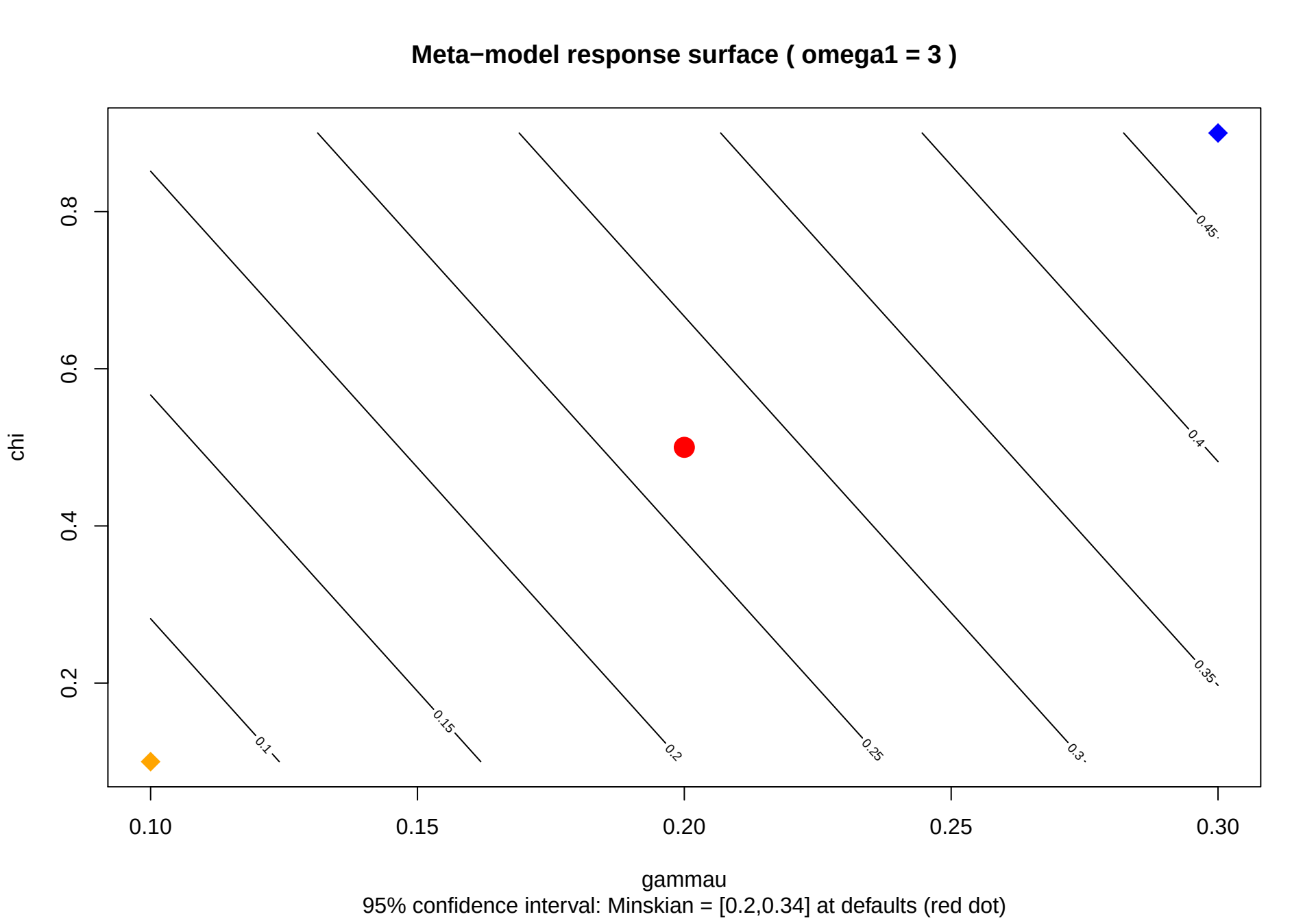

Meta−model response for parameter 'omega1'
Minskian
0.0
0.1
0.2
0.3
0.4
0.5
0.6
1
2
3
4
5
omega1
Dotted lines at 95% confidence interval

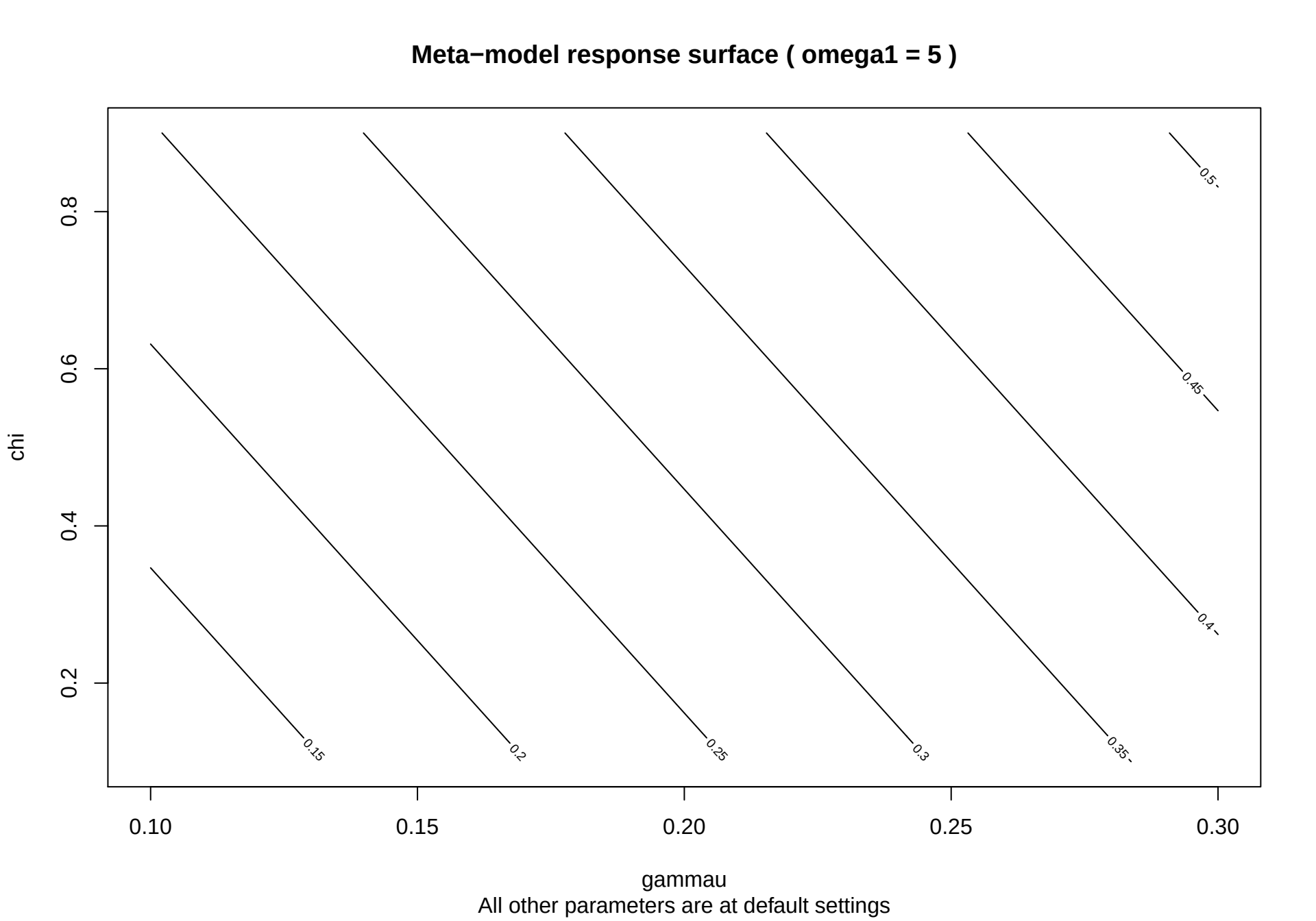

Meta−model response surface (omega1 = 1)
Minskian
0.4
0.3
0.2
0.1
gammau
0.10
0.15
0.20
0.25
0.30
chi
0.2
0.4
0.6
0.8
All other parameters are at default settings


Meta−model response surface (omega1 = 3)
Minskian
0.4
0.3
0.2
0.1
0.10
0.15
0.20
0.25
gammau
0.30
0.2
0.4
0.6
0.8
chi
95% confidence interval: Minskian = [0.2,0.34] at defaults (red dot)


Meta−model response surface (omega1 = 5)
Minskian
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 (omega1 = 1)
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
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4


Meta−model response surface (omega1 = 3)
chi
0.2
0.4
0.6
0.8
0.10
0.15
0.20
0.25
0.30
gammau
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
95% confidence interval: Minskian = [0.2,0.34] at defaults (red dot)


Meta−model response surface (omega1 = 5)
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