Comparison of alternative kriging models

	Matern 5/2	Matern 3/2	Gaussian	exponent.	power exp.
Q2 constant trend	0.7393	0.7275	0.7154	0.5646	0.7650
Q2 1st order poly. trend	0.7412	0.7025	0.7419	0.6207	0.7114
RMSE constant trend	0.0424	0.0424	0.0424	0.0424	0.0424
RMSE 1st order poly. trend	0.0272	0.0272	0.0272	0.0272	0.0272
MAE constant trend	0.0292	0.0292	0.0292	0.0292	0.0292
MAE 1st order poly. trend	0.0193	0.0193	0.0193	0.0193	0.0193
RMA constant trend	2.6049	2.6049	2.6049	2.6049	2.6049
RMA 1st order poly. trend	1.5478	1.5478	1.5478	1.5478	1.5478

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

Kriging meta−model estimation (standardized)

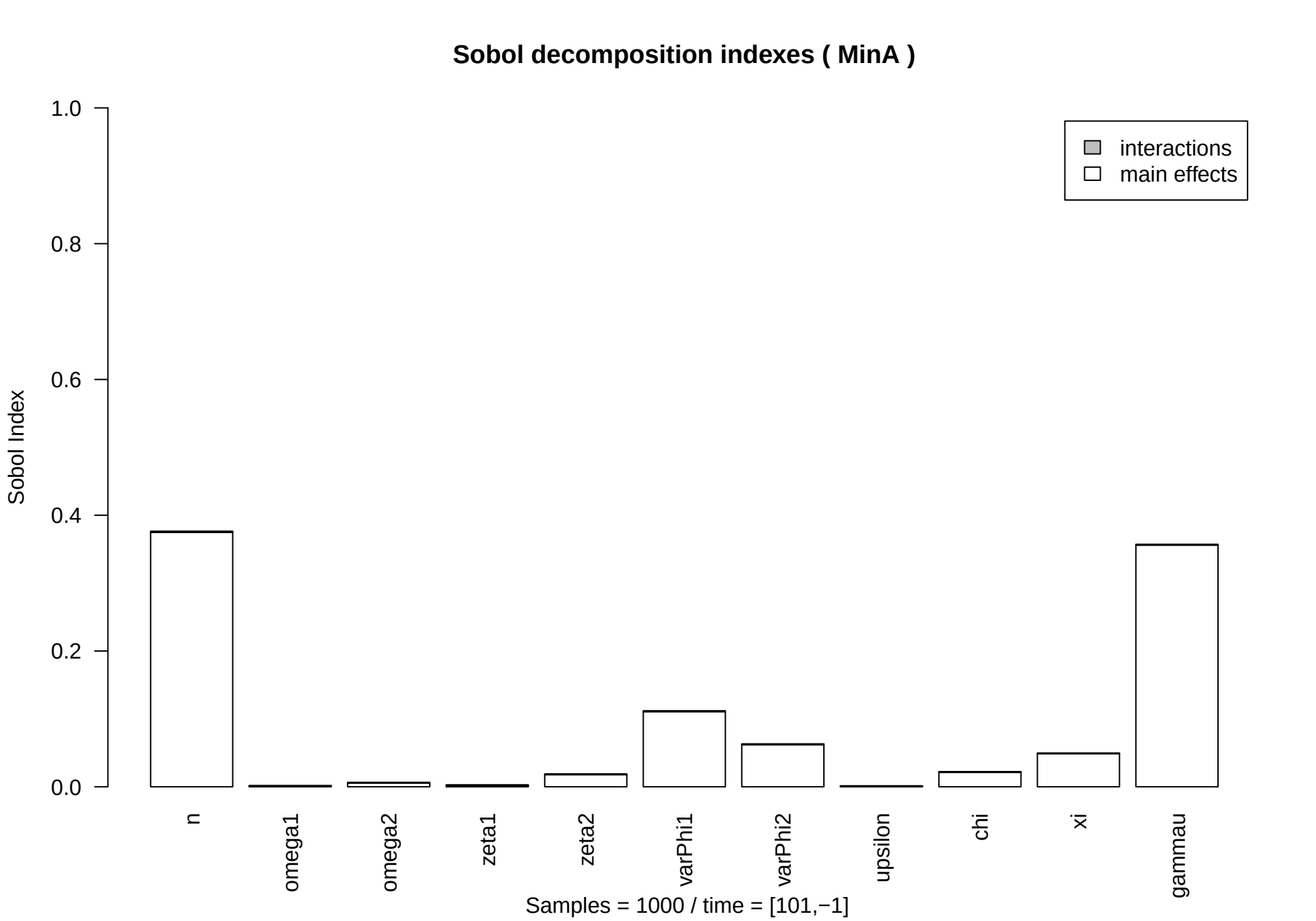
trend(intercept)	0.686	Trend specification	1st order poly.
trend(inclination)	−0.065	Correlation function	Gaussian
theta(n)	0.245	Cross−sample Q2	0.742
theta(omega1)	1.722	External RMSE	0.027
theta(omega2)	0.388	External MAE	0.019
theta(zeta1)	0.231	External RMA	1.548
theta(zeta2)	1.920	DoE samples	65
theta(varPhi1)	1.965	External samples	10
theta(varPhi2)	1.882		
theta(upsilon)	1.077		
theta(chi)	1.143		
theta(xi)	1.922		
theta(gammau)	1.764		

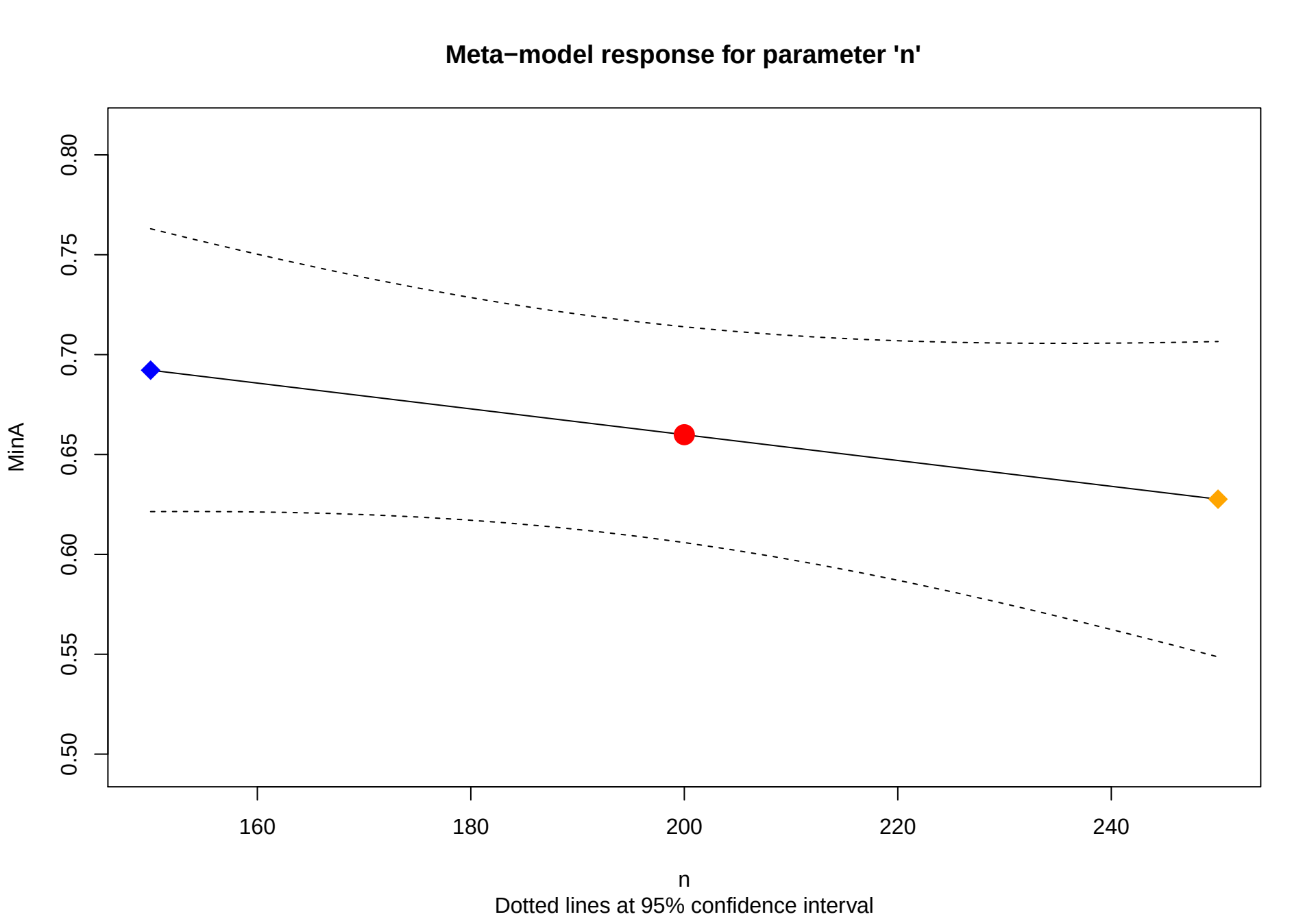
Variables rescaled to [0,1] / Average 95% CI = +/− 0.07
Predicted output at defaults: MinA = 0.66, 95% CI = [0.61,0.71], time = [101,−1]

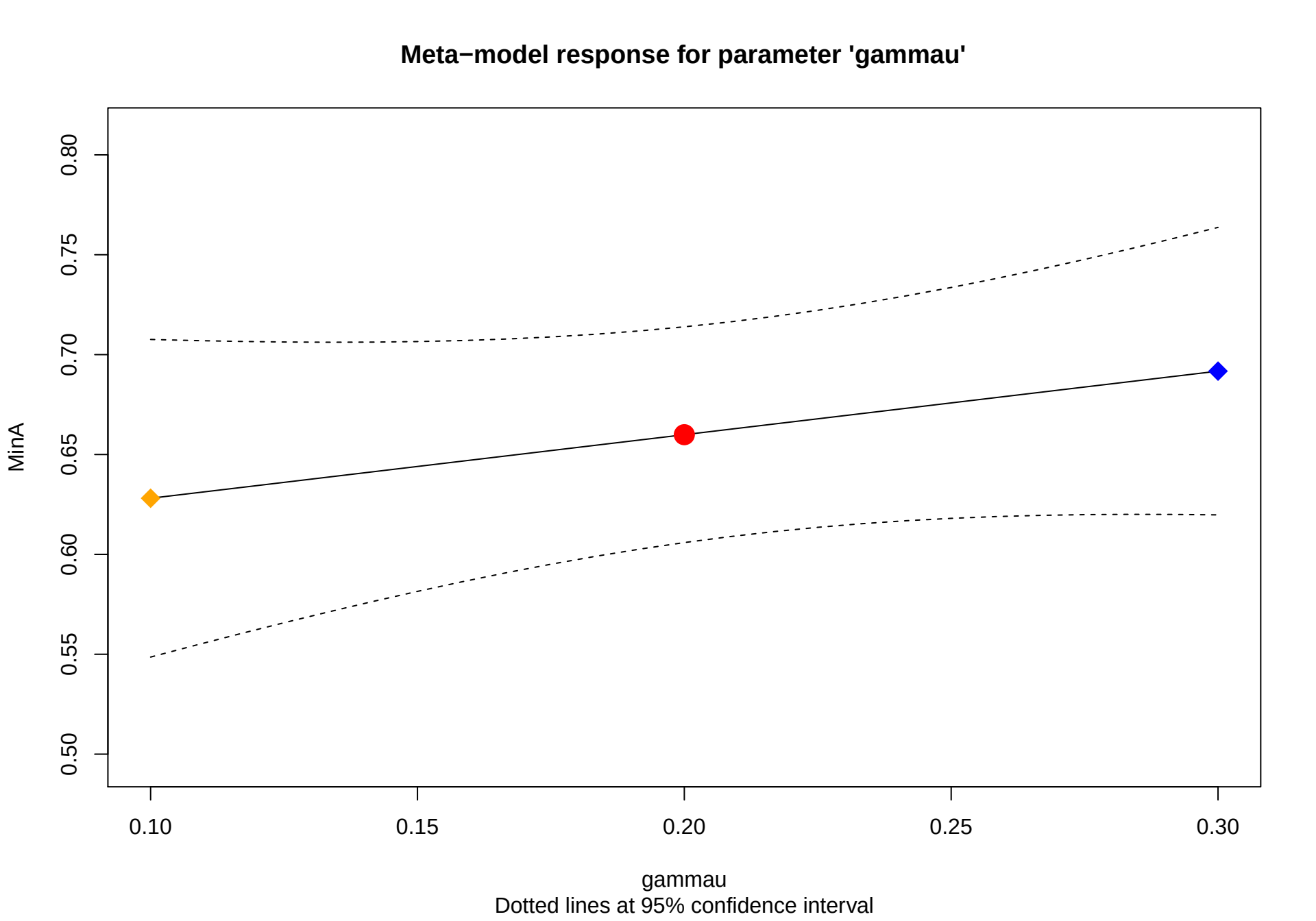
Sobol decomposition indexes (MinA)

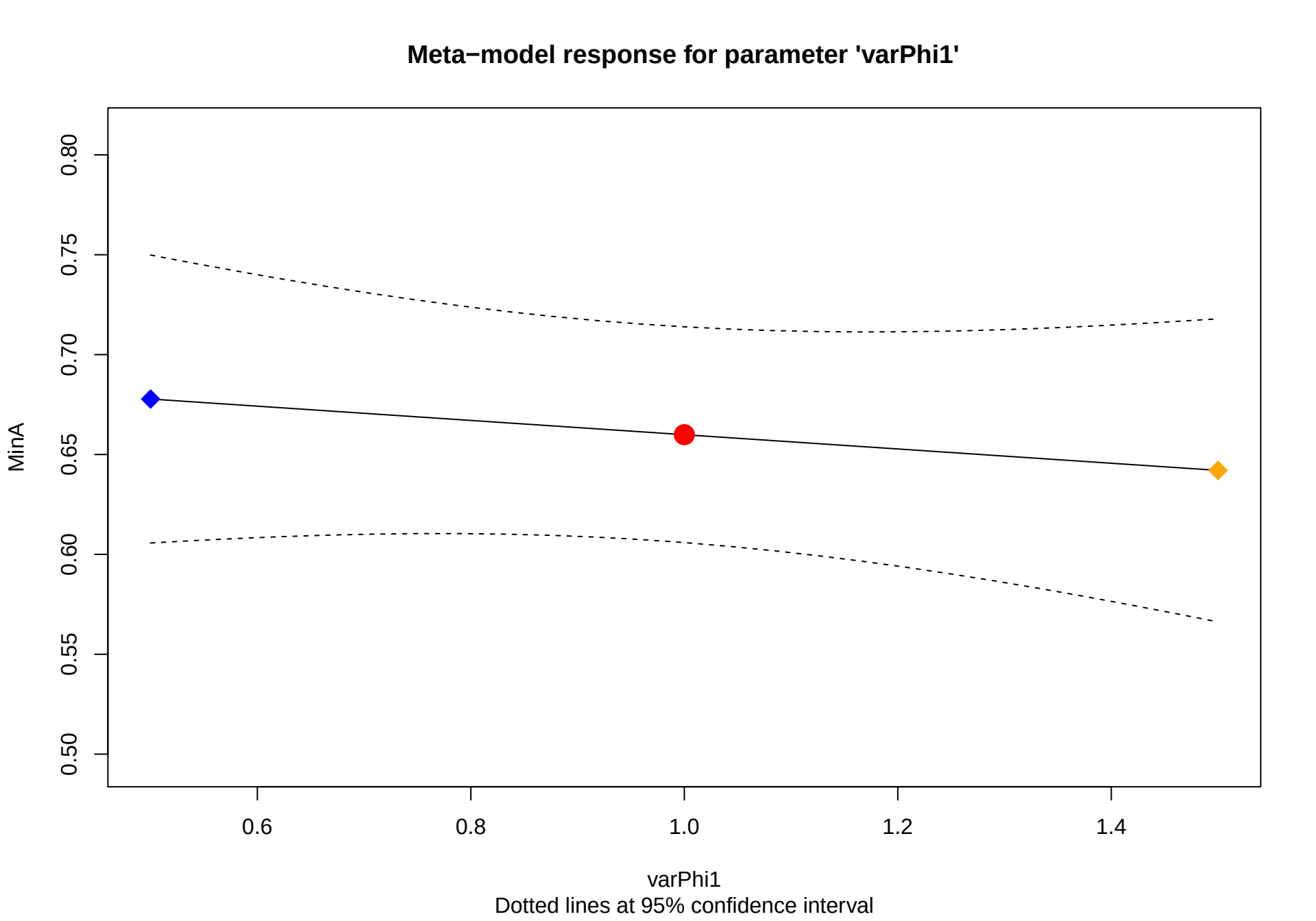
	Direct effects	Interactions
n	0.375	0.002
omega1	0.001	0.001
omega2	0.006	0.001
zeta1	0.002	0.001
zeta2	0.018	0.001
varPhi1	0.111	0.001
varPhi2	0.062	0.001
upsilon	0.000	0.001
chi	0.021	0.001
xi	0.049	0.001
gammau	0.356	0.001

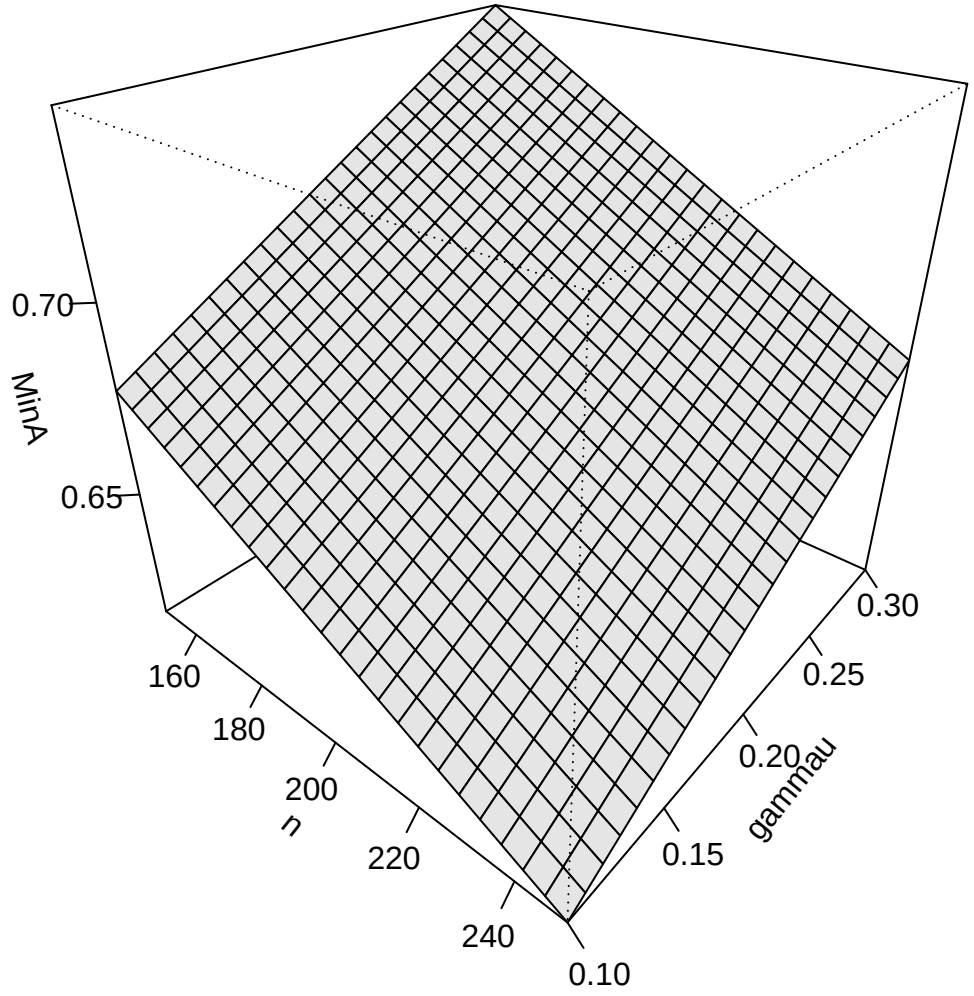
Samples = 1000 / time = [101,−1]

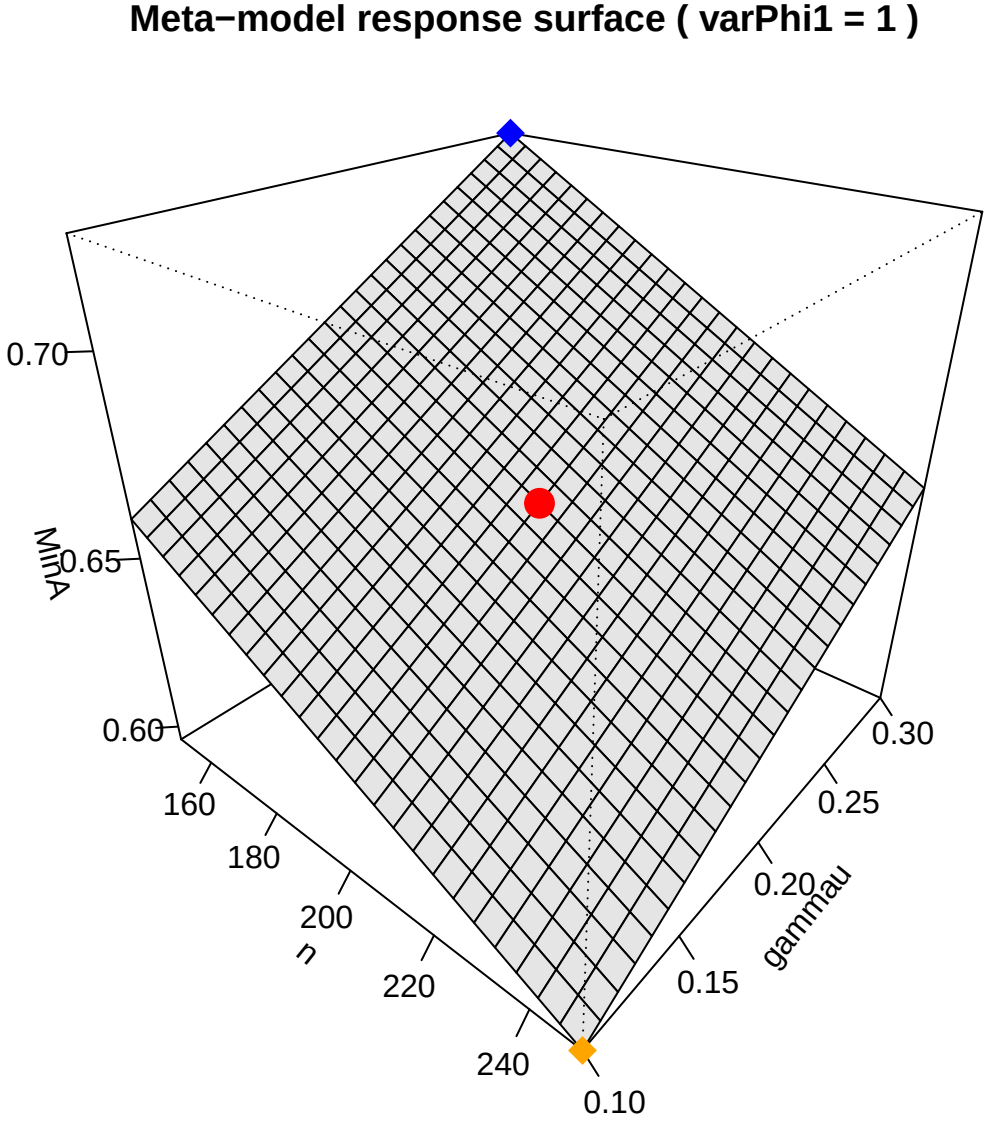

Sobol decomposition indexes (MinA)
interactions
main effects
Sobol Index
1.0
0.8
0.6
0.4
0.2
0.0
n
omega1
omega2
zeta1
zeta2
varPhi1
varPhi2
upsilon
chi
xi
gammau
Samples = 1000 / time = [101,−1]


Meta−model response for parameter 'n'
MinA
0.80
0.75
0.70
0.65
0.60
0.55
0.50
160
180
200
220
240
n
Dotted lines at 95% confidence interval

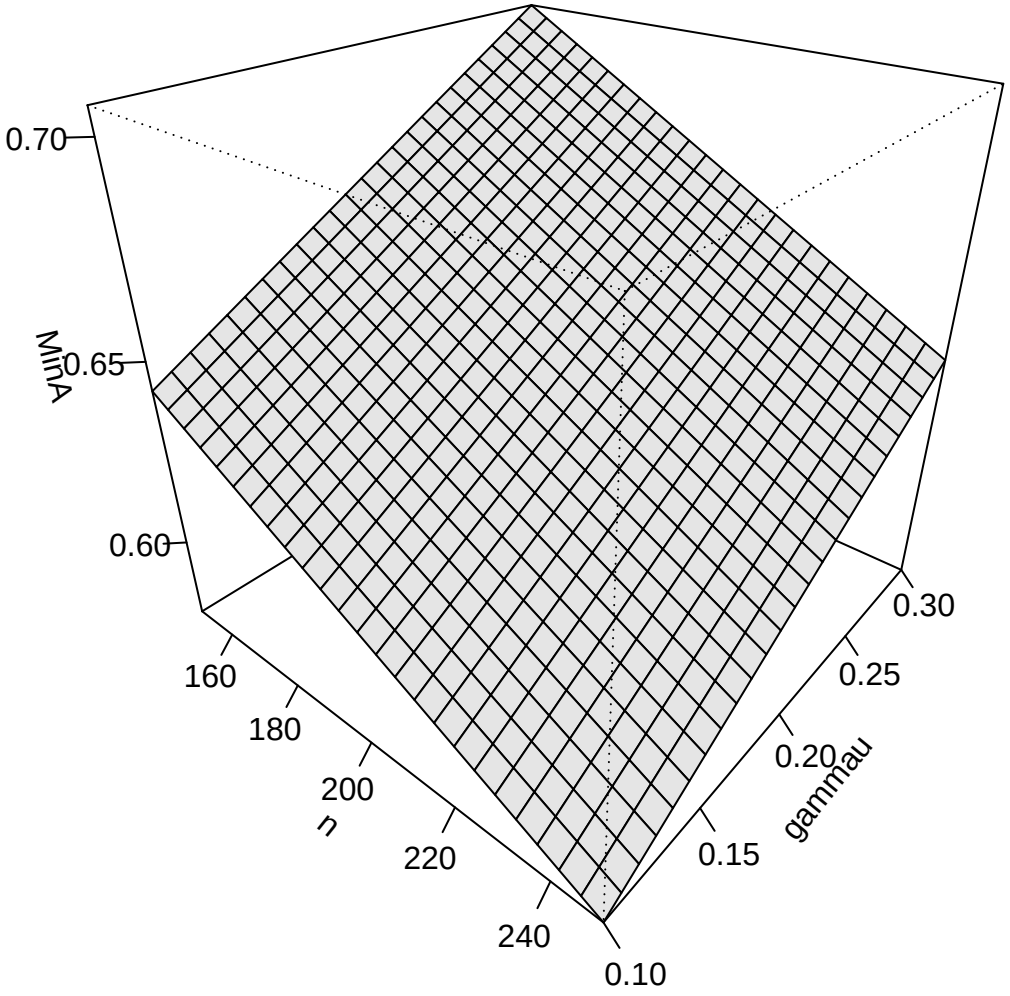

Meta−model response for parameter 'gammau'
MinA
0.50
0.55
0.60
0.65
0.70
0.75
0.80
0.10
0.15
0.20
0.25
0.30
gammau
Dotted lines at 95% confidence interval

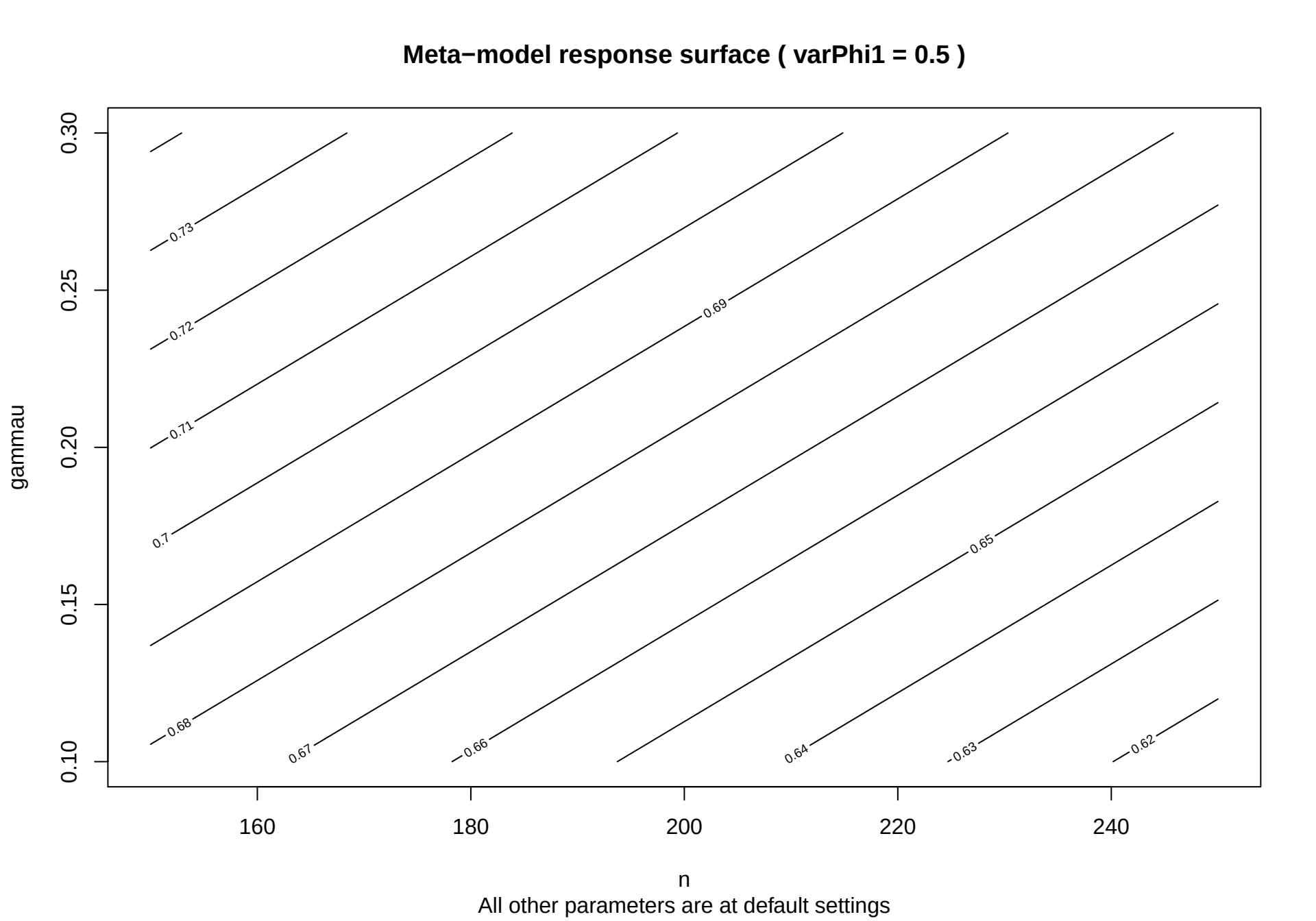

Meta−model response for parameter 'varPhi1'
MinA
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.6
0.8
1.0
1.2
1.4
varPhi1
Dotted lines at 95% confidence interval

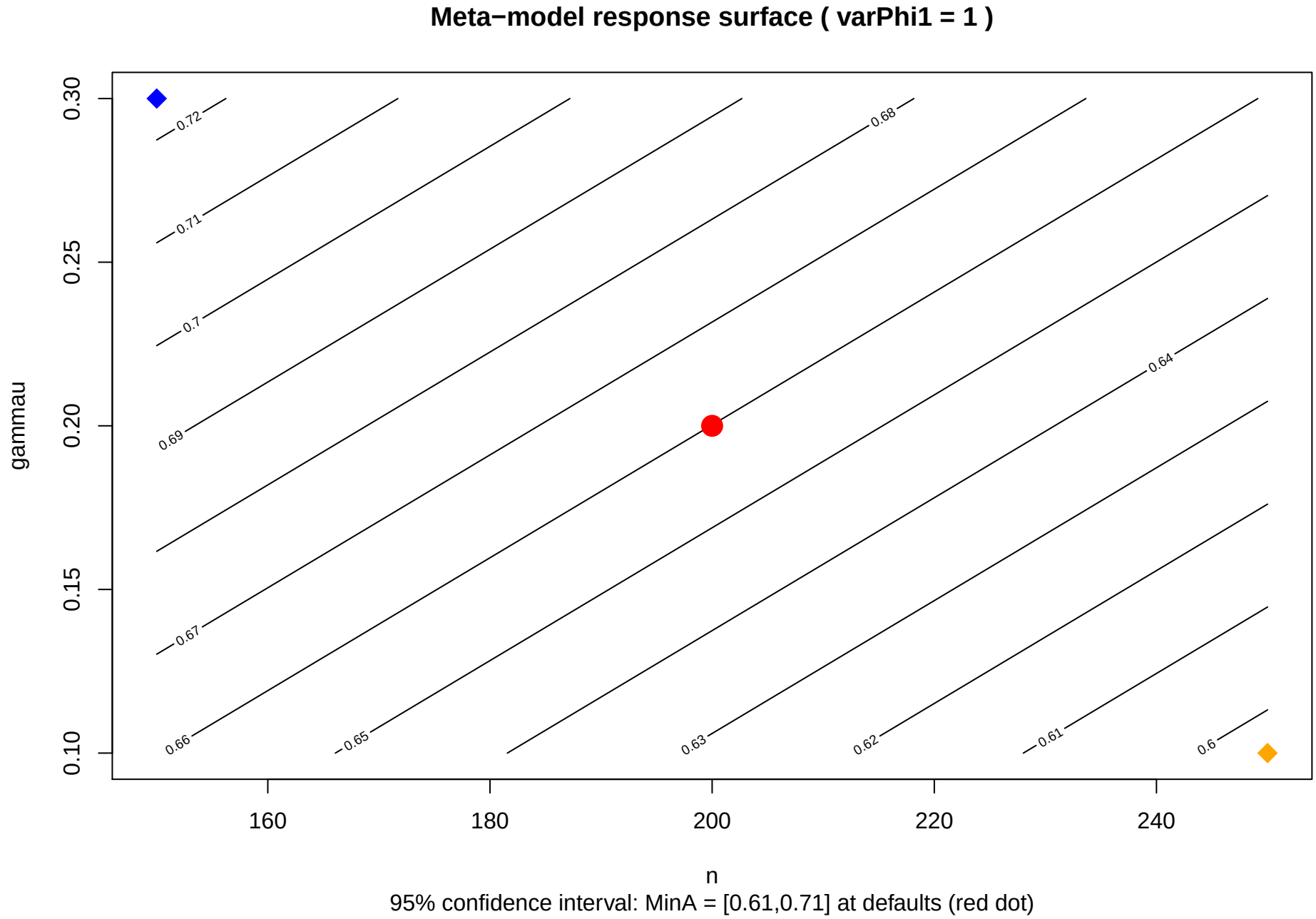

Meta−model response surface (varPhi1 = 0.5)
MinA
0.70
0.65
L
160
180
200
220
240
gammau
0.10
0.15
0.20
0.25
0.30
All other parameters are at default settings

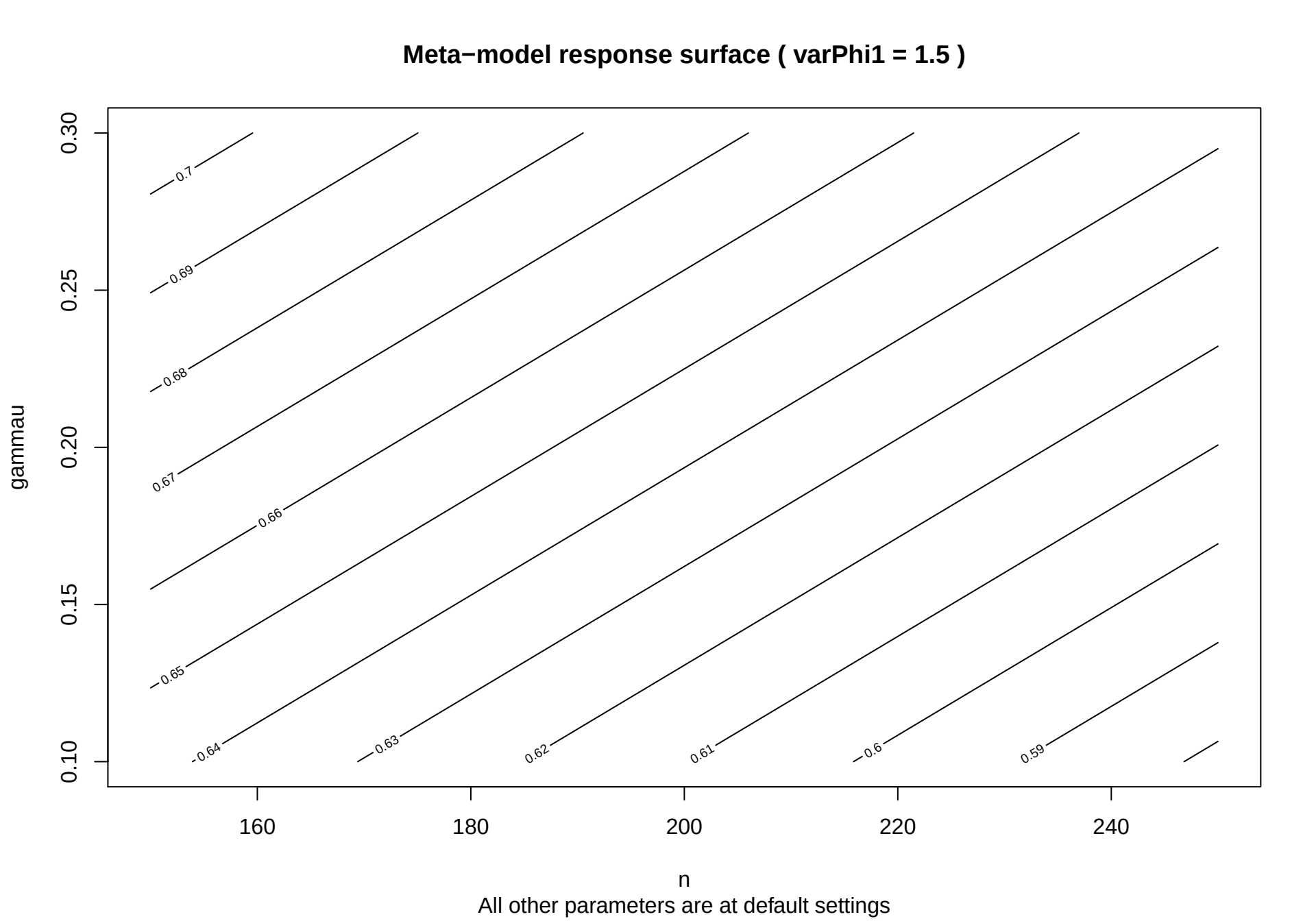


95% confidence interval: MinA = [0.61,0.71] at defaults (red dot)


Meta−model response surface (varPhi1 = 1.5)
MinA
0.70
0.65
0.60
n
160
180
200
220
240
gammau
0.10
0.15
0.20
0.25
0.30
All other parameters are at default settings


Meta−model response surface (varPhi1 = 0.5)
gammau
0.10
0.15
0.20
0.25
0.30
0.73
0.72
0.71
0.7
0.68
0.67
0.66
0.69
0.65
0.64
0.63
0.62
160
180
200
220
240
n
All other parameters are at default settings


Meta−model response surface (varPhi1 = 1)
gammau
0.10
0.15
0.20
0.25
0.30
160
180
200
220
240
n
0.72
0.71
0.7
0.69
0.68
0.67
0.66
0.65
0.64
0.63
0.62
0.61
0.6
95% confidence interval: MinA = [0.61,0.71] at defaults (red dot)


Meta−model response surface (varPhi1 = 1.5)
gammau
0.10
0.15
0.20
0.25
0.30
0.7
0.69
0.68
0.67
0.66
0.65
0.64
0.63
0.62
0.61
0.6
0.59
160
180
200
220
240
n
All other parameters are at default settings