Comparison of alternative kriging models

	Matern 5/2	Matern 3/2	Gaussian	exponent.	power exp.
Q2 constant trend	0.8845	0.8584	0.8941	0.6388	0.8634
Q2 1st order poly. trend	0.9144	0.8962	0.9263	0.7368	0.9094
RMSE constant trend	0.0099	0.0122	0.0069	0.0127	0.0103
RMSE 1st order poly. trend	0.0052	0.0055	0.0061	0.0102	0.0075
MAE constant trend	0.0070	0.0084	0.0061	0.0089	0.0083
MAE 1st order poly. trend	0.0045	0.0048	0.0048	0.0072	0.0055
RMA constant trend	1.2340	1.8460	0.7064	1.5022	1.2586
RMA 1st order poly. trend	0.5333	0.6250	0.7383	1.5851	1.0702

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

Kriging meta−model estimation (standardized)

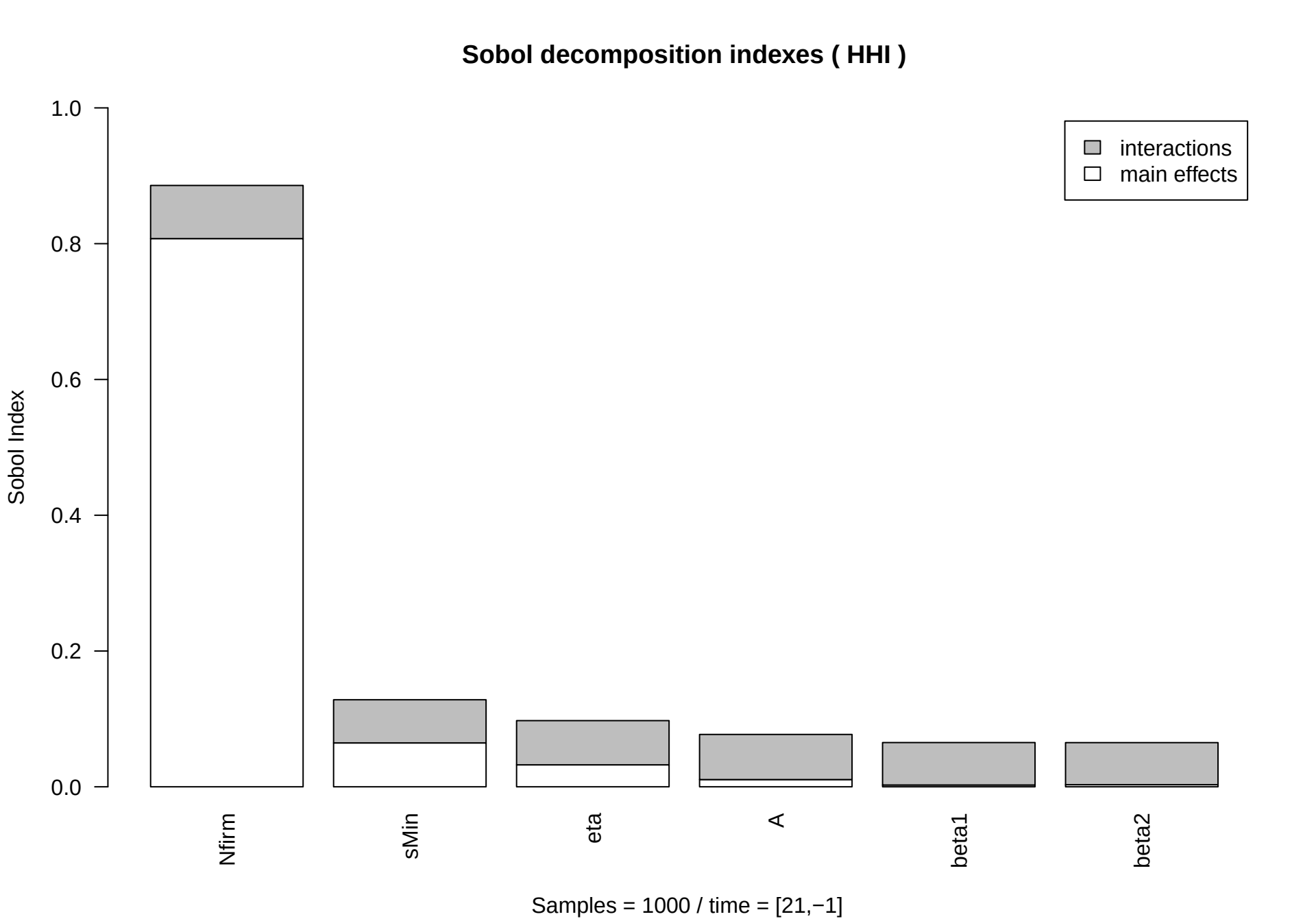
trend(intercept)	0.122	Trend specification	1st order poly.
trend(inclination)	0.020	Correlation function	Matern 5/2
theta(eta)	2.000	Cross−sample Q2	0.914
theta(beta1)	2.000	External RMSE	0.005
theta(beta2)	2.000	External MAE	0.005
theta(A)	1.738	External RMA	0.533
theta(sMin)	2.000	DoE samples	33
theta(Nfirm)	0.115	External samples	10

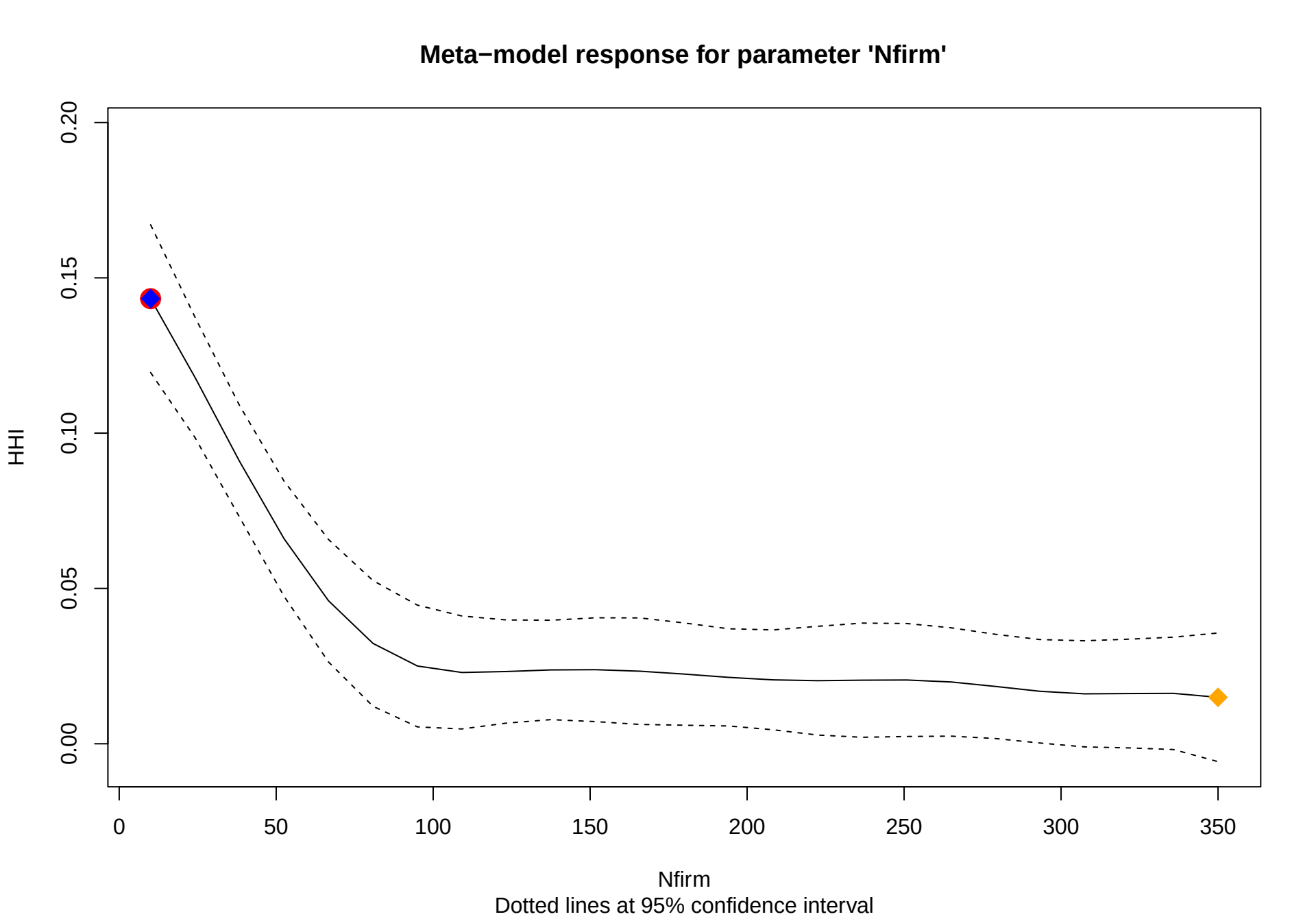
Variables rescaled to [0,1] / Average 95% CI = +/− 0.02
Predicted output at defaults: HHI = 0.14, 95% CI = [0.12,0.17], time = [21,−1]

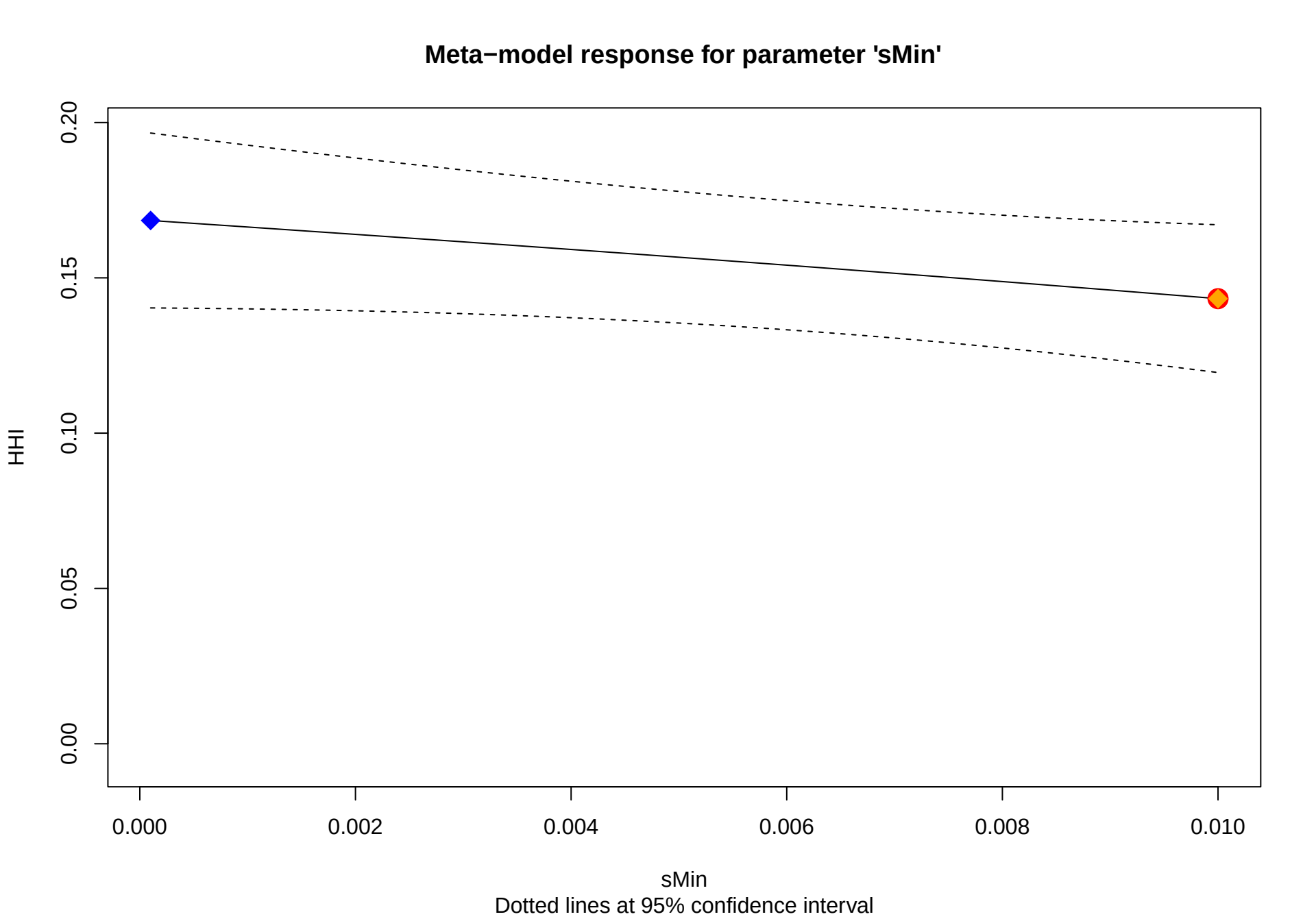
Sobol decomposition indexes (HHI)

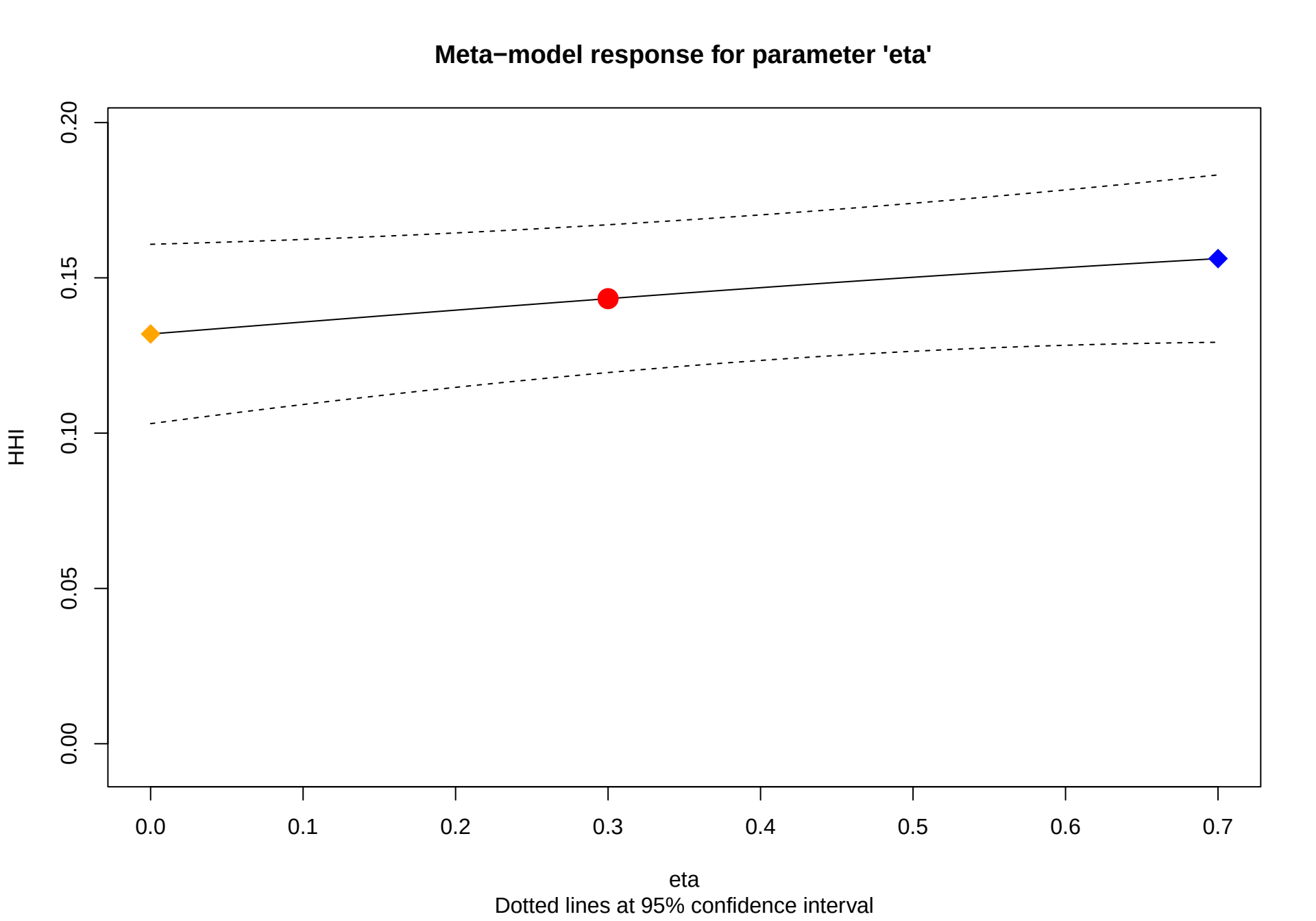
	Direct effects	Interactions
Nfirm	0.807	0.078
sMin	0.065	0.064
eta	0.032	0.065
A	0.011	0.066
beta1	0.003	0.063
beta2	0.003	0.062

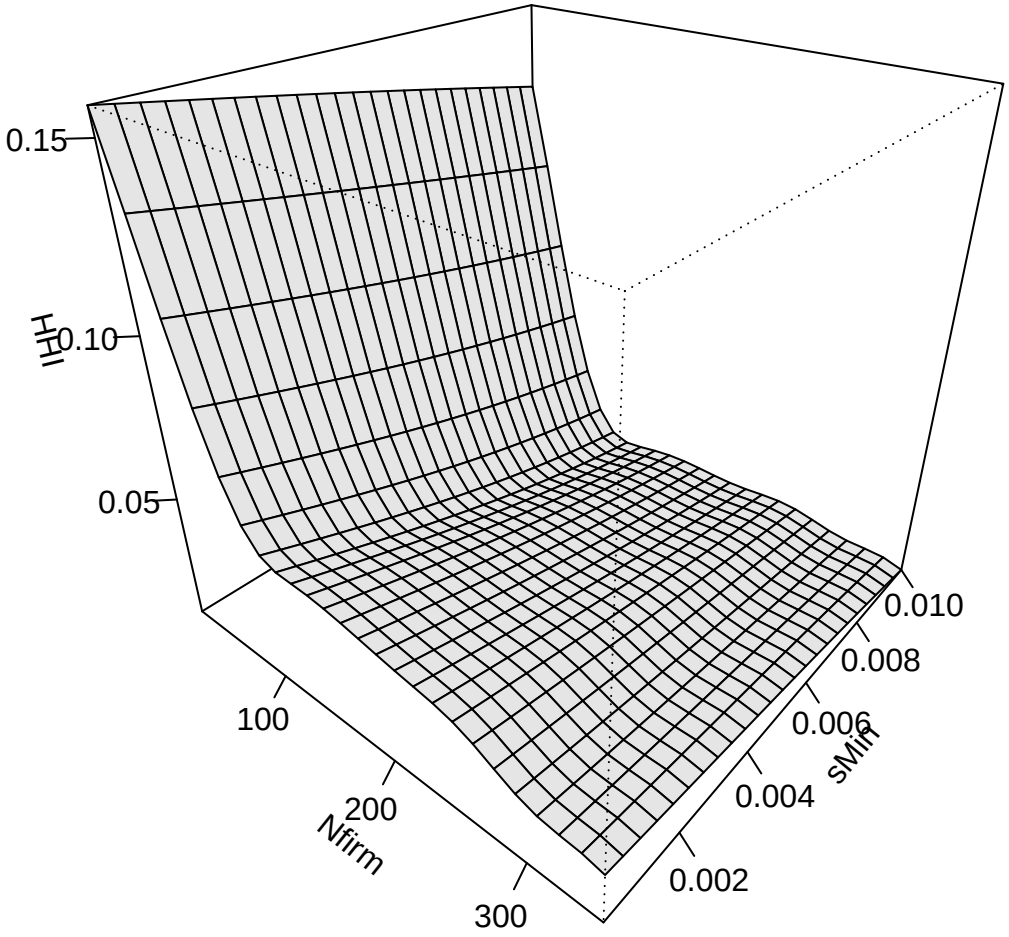
Samples = 1000 / time = [21,−1]

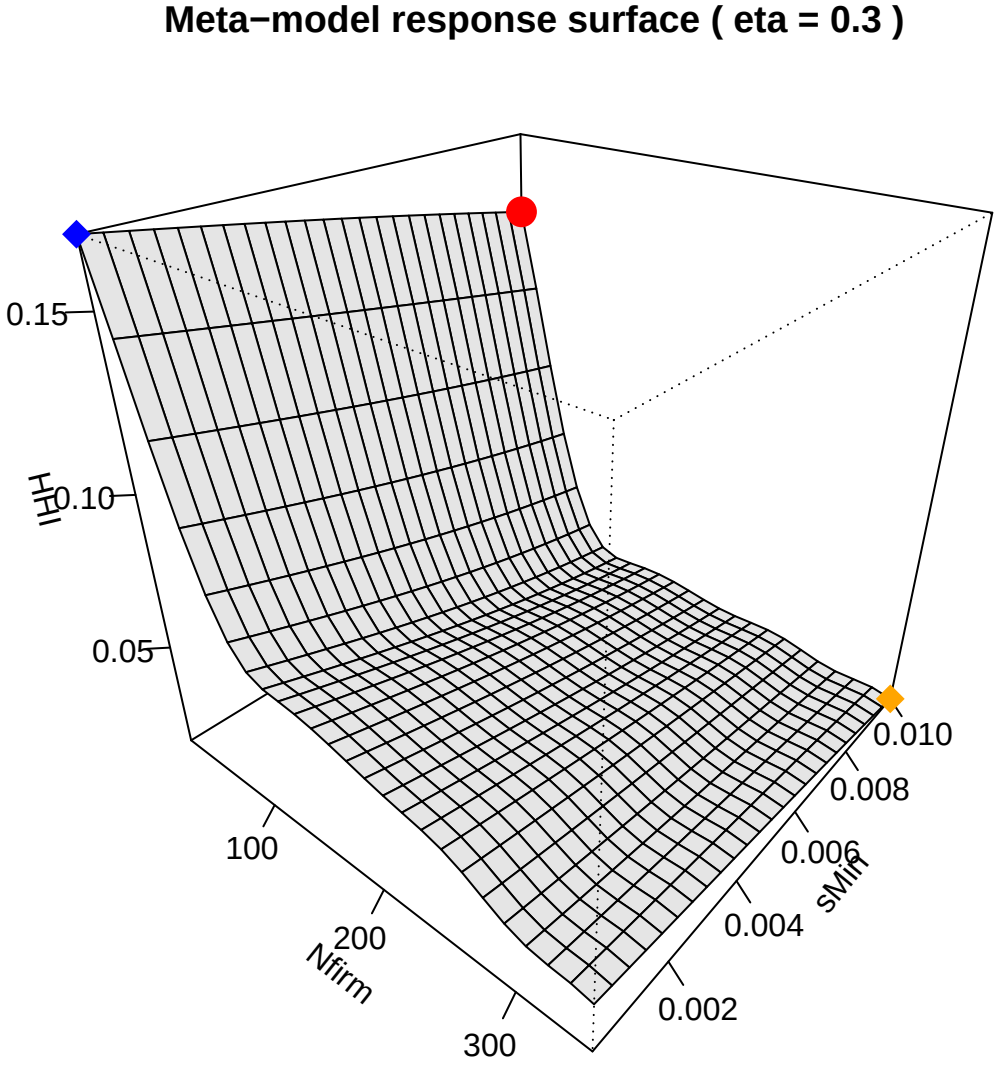

Sobol decomposition indexes (HHI)
interactions
main effects
Sobol Index
1.0
0.8
0.6
0.4
0.2
0.0
Nfirm
sMin
eta
A
beta1
beta2
Samples = 1000 / time = [21,−1]

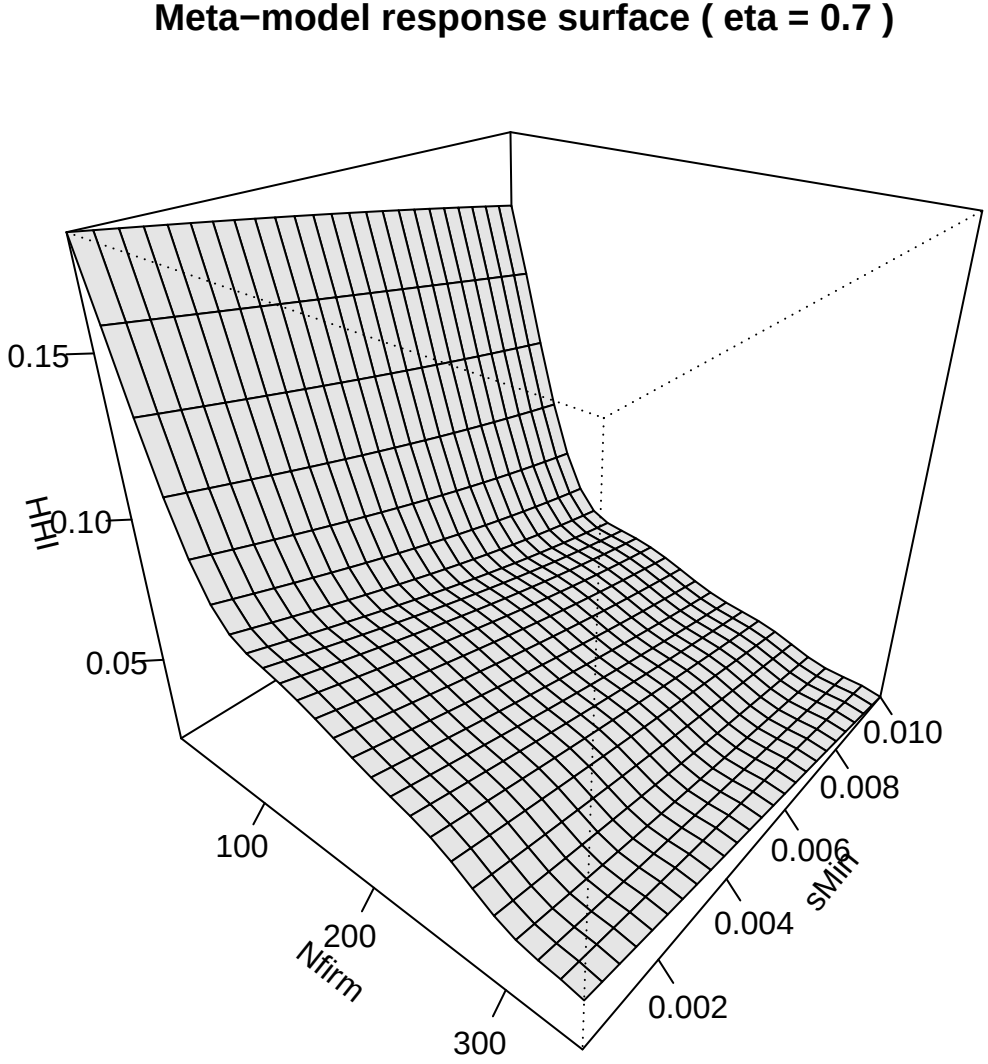

Meta−model response for parameter 'Nfirm'
HHI
0.00
0.05
0.10
0.15
0.20
0
50
100
150
200
250
300
350
Nfirm
Dotted lines at 95% confidence interval

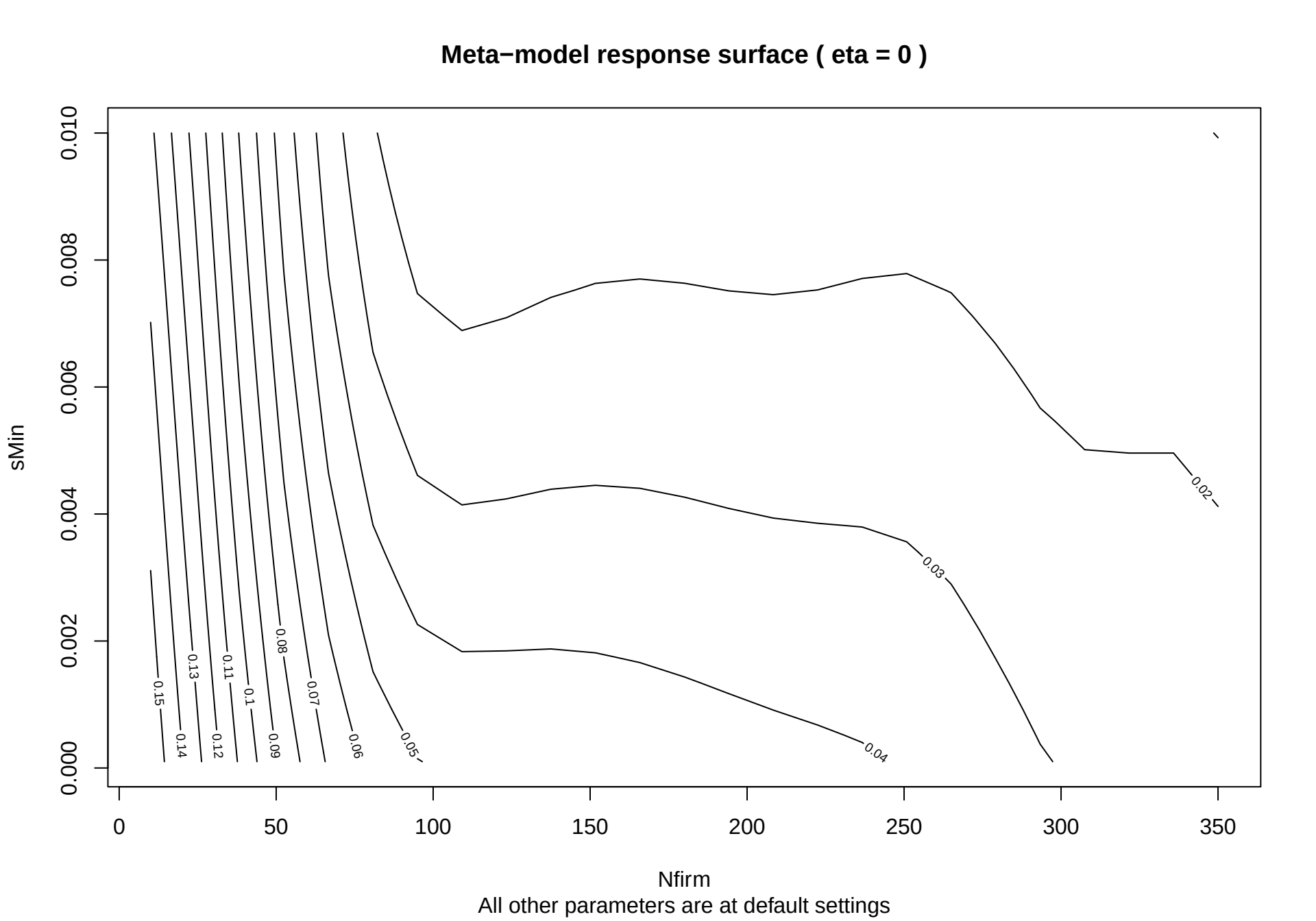

Meta−model response for parameter 'sMin'
HHI
0.00
0.05
0.10
0.15
0.20
0.000
0.002
0.004
0.006
0.008
0.010
sMin
Dotted lines at 95% confidence interval

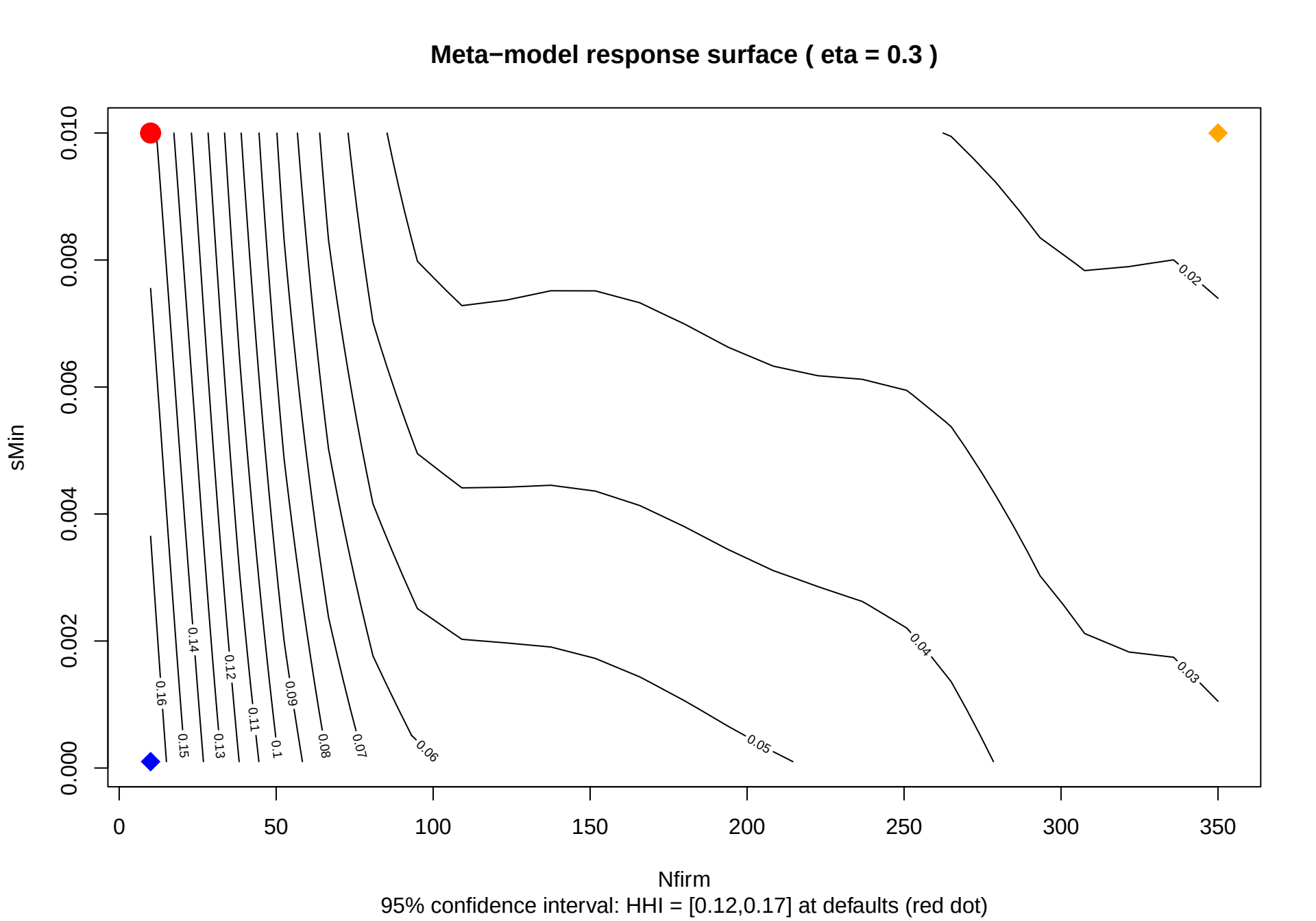

Meta−model response for parameter 'eta'
HHI
0.00
0.05
0.10
0.15
0.20
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
eta
Dotted lines at 95% confidence interval

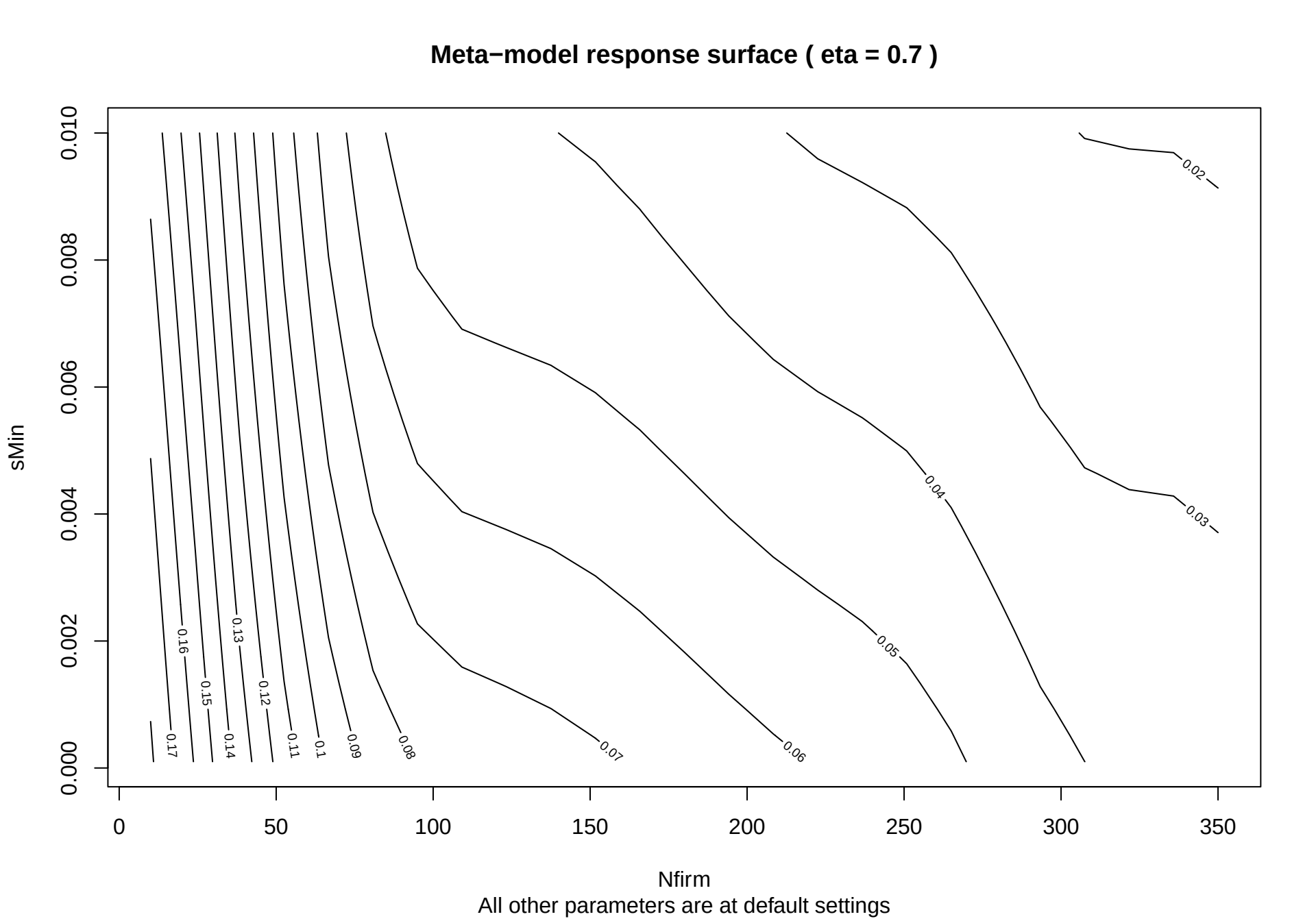

Meta−model response surface (eta = 0)
0.15
0.10
0.05
HHI
100
200
300
Nfirm
0.002
0.004
0.006
0.008
0.010
sMin
All other parameters are at default settings


Meta−model response surface (eta = 0.3)
HHI
0.15
0.10
0.05
Nfirm
100
200
300
sMin
0.010
0.008
0.006
0.004
0.002
95% confidence interval: HHI = [0.12,0.17] at defaults (red dot)


Meta−model response surface (eta = 0.7)
HHI
0.15
0.10
0.05
Nfirm
100
200
300
sMin
0.010
0.008
0.006
0.004
0.002
All other parameters are at default settings


Meta−model response surface (eta = 0)
sMin
0.000
0.002
0.004
0.006
0.008
0.010
0
50
100
150
200
250
300
350
Nfirm
All other parameters are at default settings
0.15
0.14
0.13
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02


Meta−model response surface (eta = 0.3)
sMin
0.000
0.002
0.004
0.006
0.008
0.010
0
50
100
150
200
250
300
350
Nfirm
0.16
0.15
0.14
0.13
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
95% confidence interval: HHI = [0.12,0.17] at defaults (red dot)


Meta−model response surface (eta = 0.7)
sMin
0.000
0.002
0.004
0.006
0.008
0.010
0
50
100
150
200
250
300
350
Nfirm
All other parameters are at default settings
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02