Comparison of alternative kriging models

	Matern 5/2	Matern 3/2	Gaussian	exponent.	power exp.
Q2 constant trend	0.8127	0.8052	0.8127	0.6466	0.7756
Q2 1st order poly. trend	0.8686	0.8608	0.8644	0.7716	0.7789

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)	0.071	Trend specification	1st order poly.
trend(inclination)	−0.042	Correlation function	Matern 5/2
theta(n)	1.946	Cross−sample Q2	0.869
theta(omega1)	0.919	External RMSE	NA
theta(omega2)	1.232	External MAE	NA
theta(zeta1)	1.704	External RMA	NA
theta(zeta2)	0.651	DoE samples	65
theta(varPhi1)	0.084	External samples	NA
theta(varPhi2)	1.589		
theta(upsilon)	0.390		
theta(chi)	0.164		
theta(xi)	1.358		
theta(gammau)	1.539		

Variables rescaled to [0,1] / Average 95% CI = +/− 0.07
Predicted output at defaults: Lev = 0.19, 95% CI = [0.14,0.25], time = [101,−1]

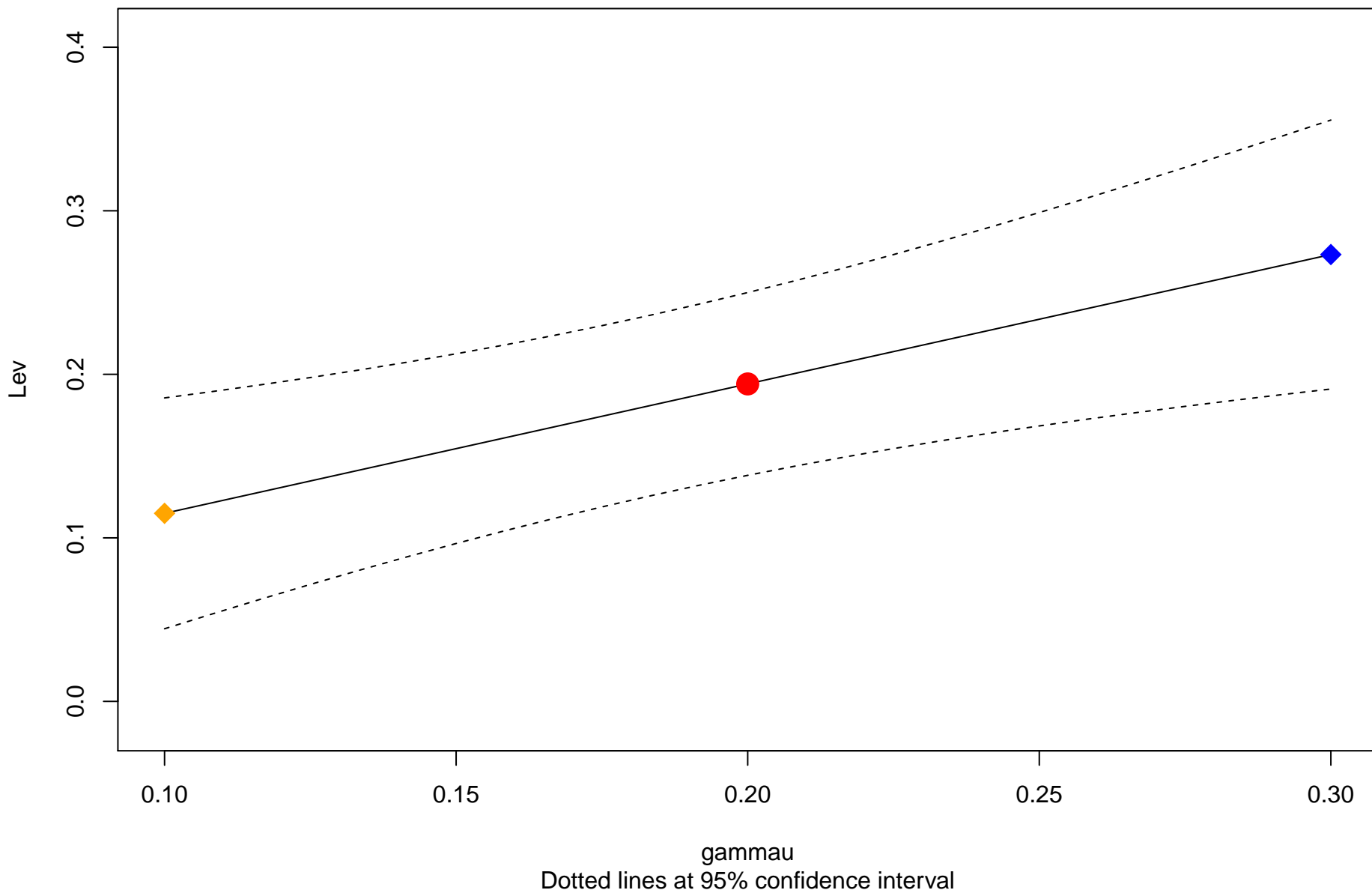**Sobol decomposition indexes (Lev)**

	Direct effects	Interactions
n	0.042	0.002
omega1	0.038	0.002
omega2	0.034	0.002
zeta1	0.006	0.002
zeta2	0.000	0.002
varPhi1	0.079	0.002
varPhi2	0.006	0.002
upsilon	0.049	0.002
chi	0.142	0.002
xi	0.008	0.002
gammau	0.601	0.002

Samples = 1000 / time = [101,−1]

Sobol decomposition indexes (Lev)

Samples = 1000 / time = [101,−1]
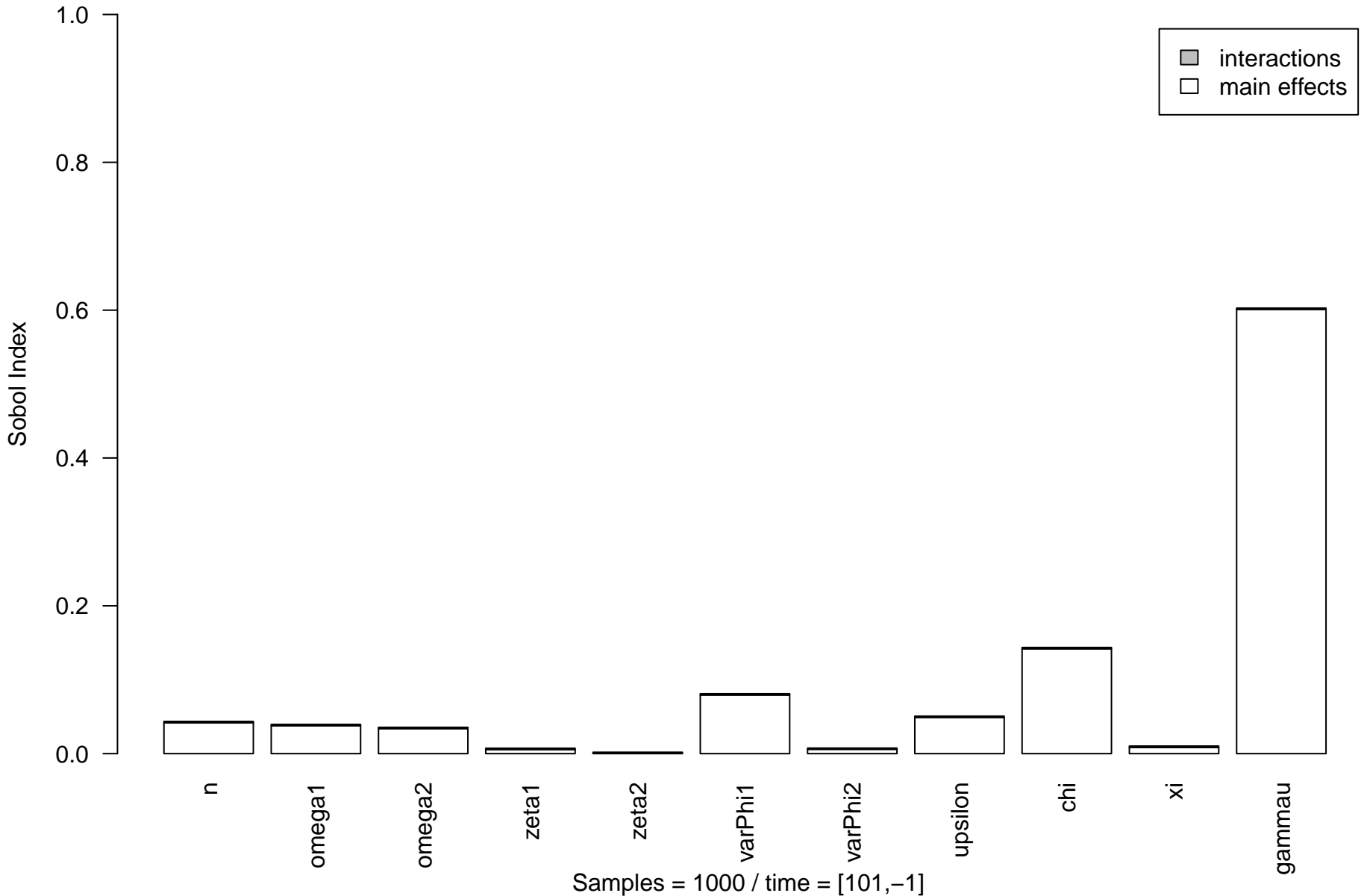
Meta−model response for parameter 'gammau'

Lev

gammau
Dotted lines at 95% confidence interval

Meta−model response for parameter 'chi'

Lev

chi
Dotted lines at 95% confidence interval
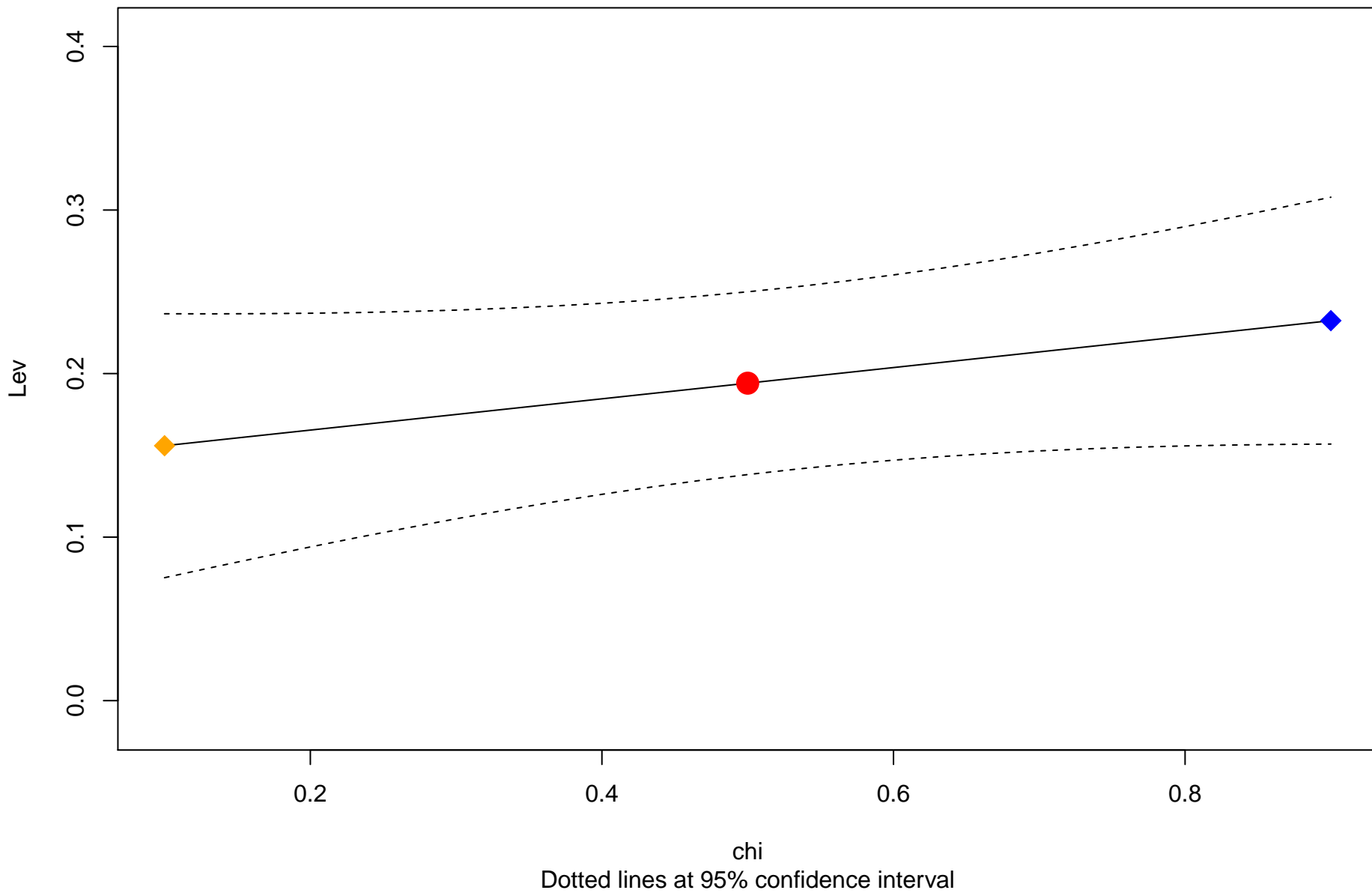
Meta−model response for parameter 'varPhi1'

Lev

varPhi1
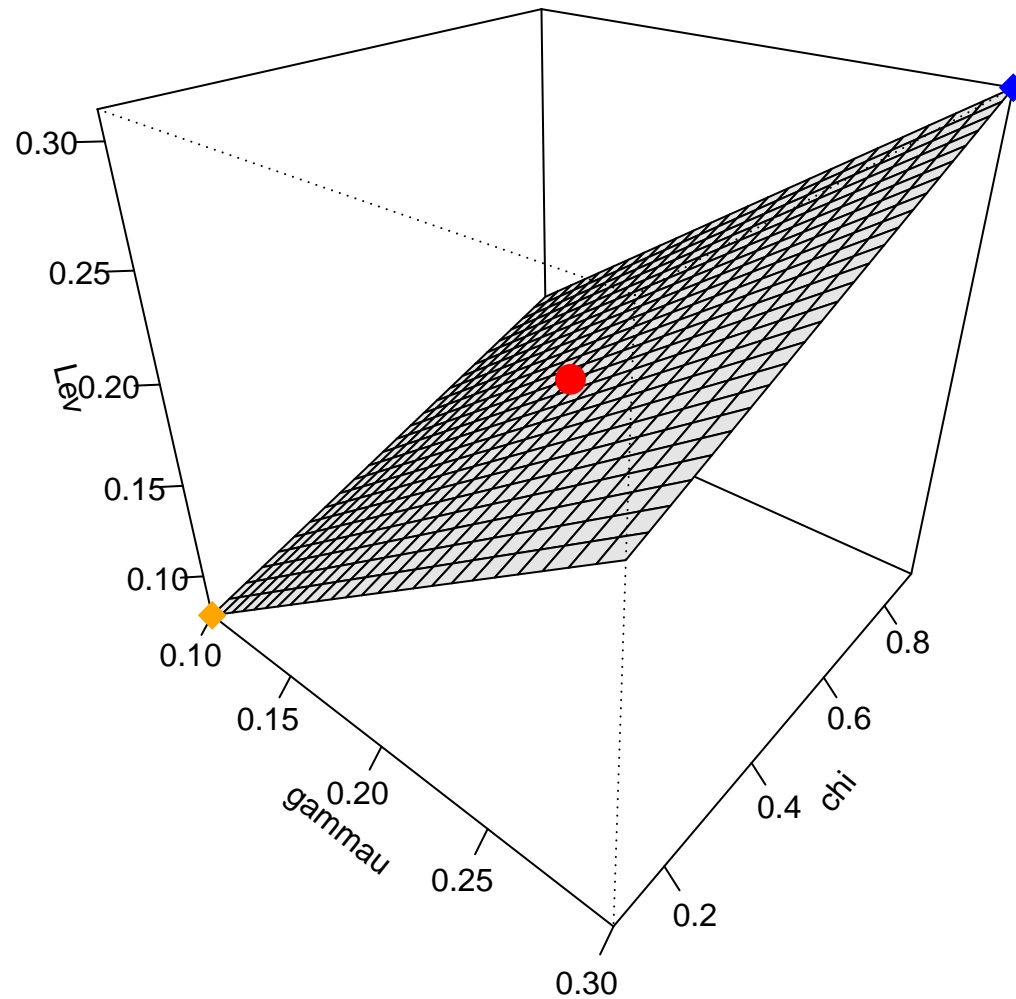Dotted lines at 95% confidence interval
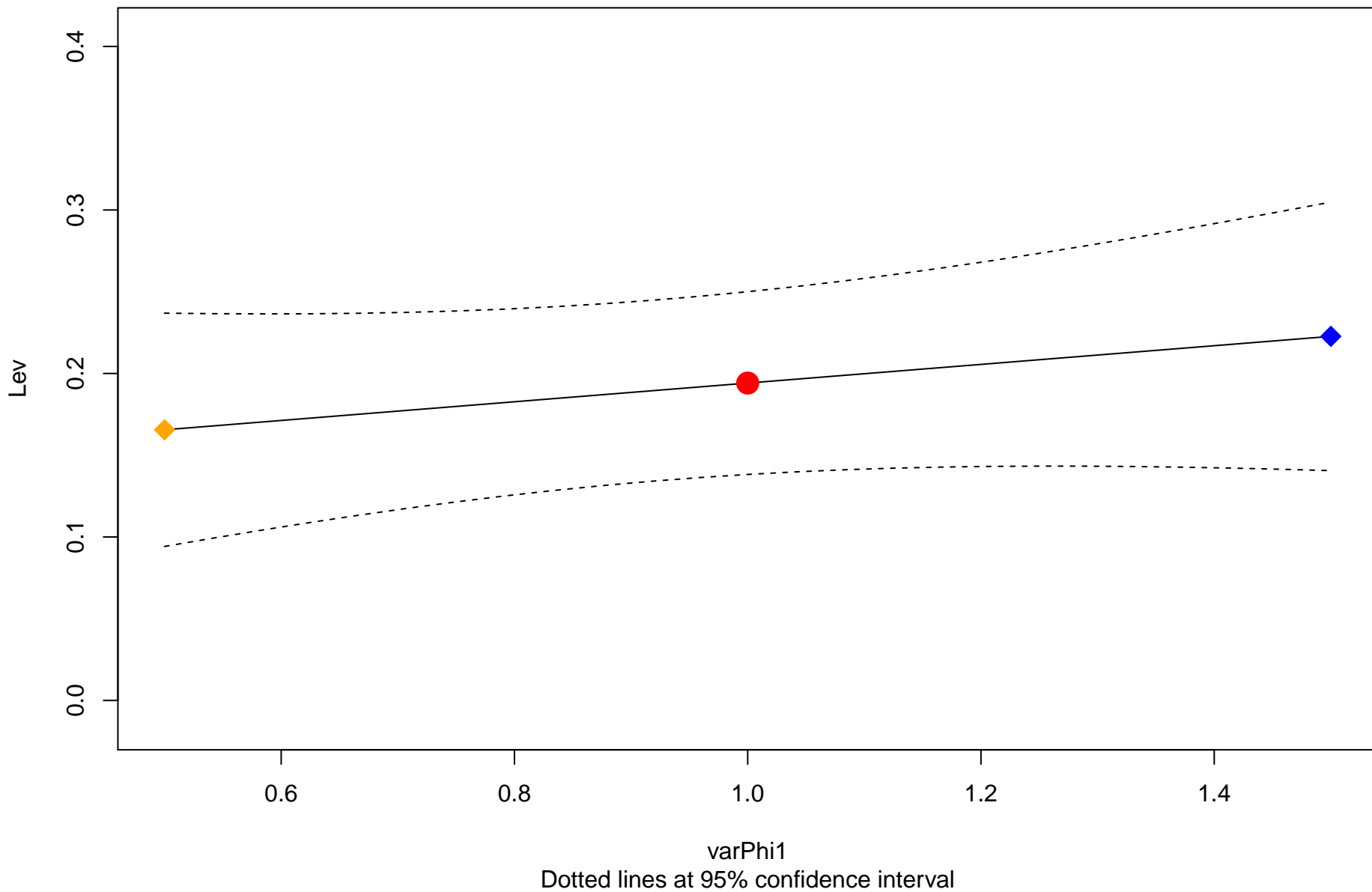
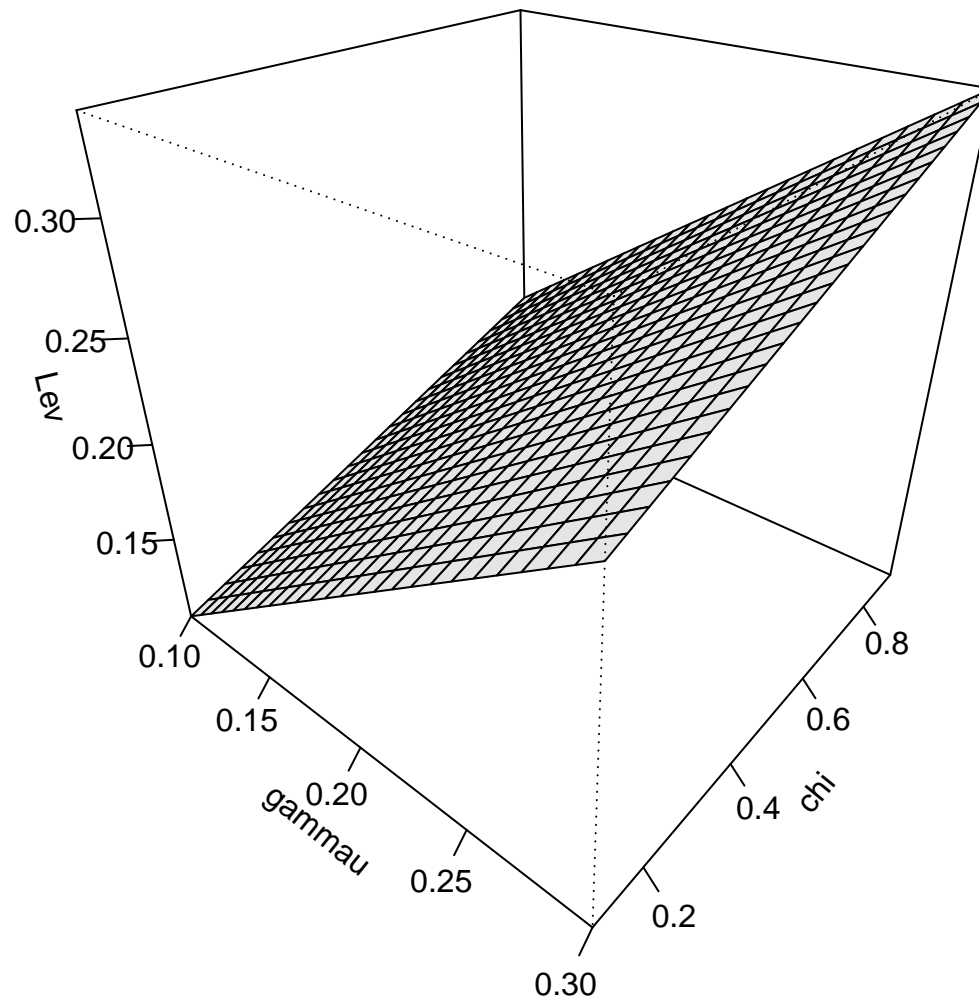**Meta−model response surface (varPhi1 = 0.5)**
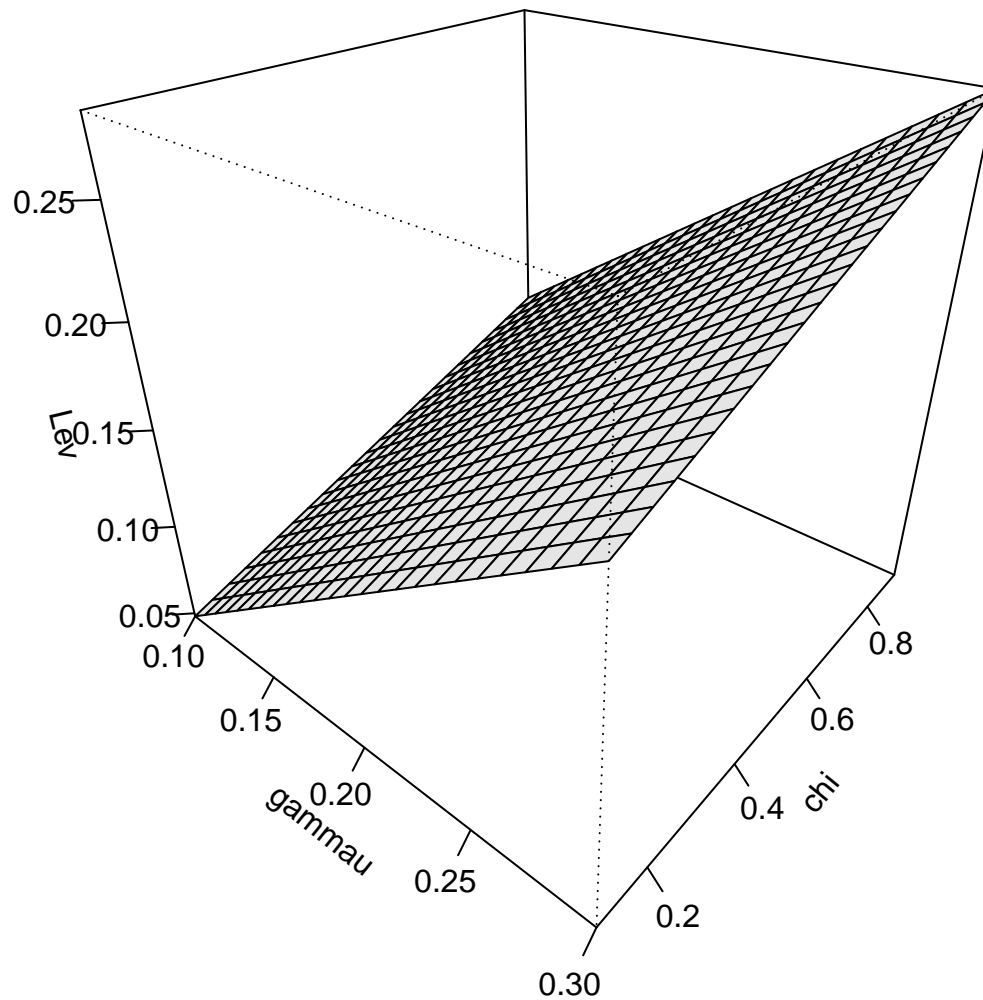
All other parameters are at default settings

Meta−model response surface (varPhi1 = 1)

95% confidence interval: Lev = [0.14,0.25] at defaults (red dot)

Meta−model response surface (varPhi1 = 1.5)

Lev

gammau

chi

All other parameters are at default settings

Meta−model response surface (varPhi1 = 0.5)

chi

gammau

All other parameters are at default settings
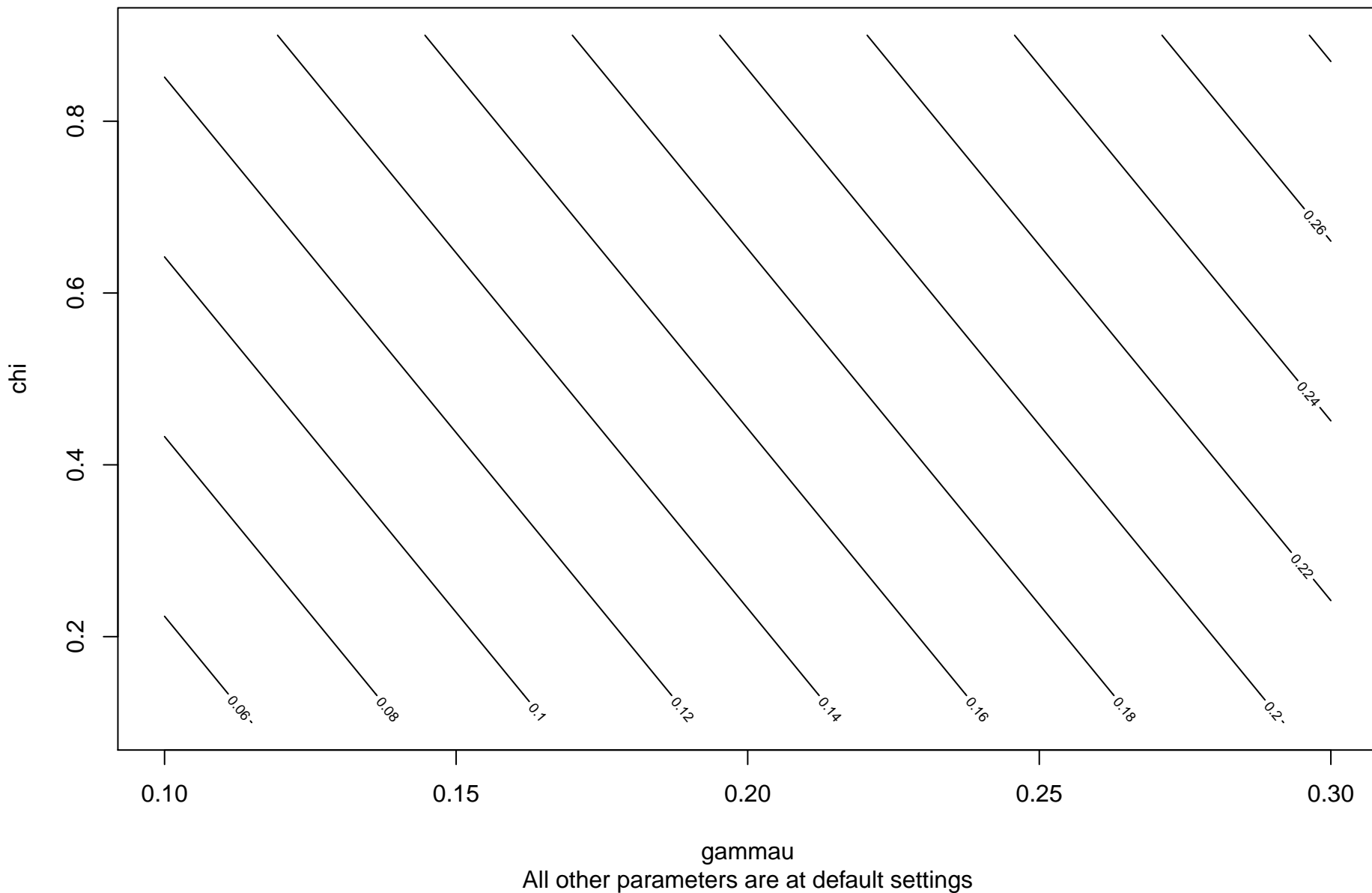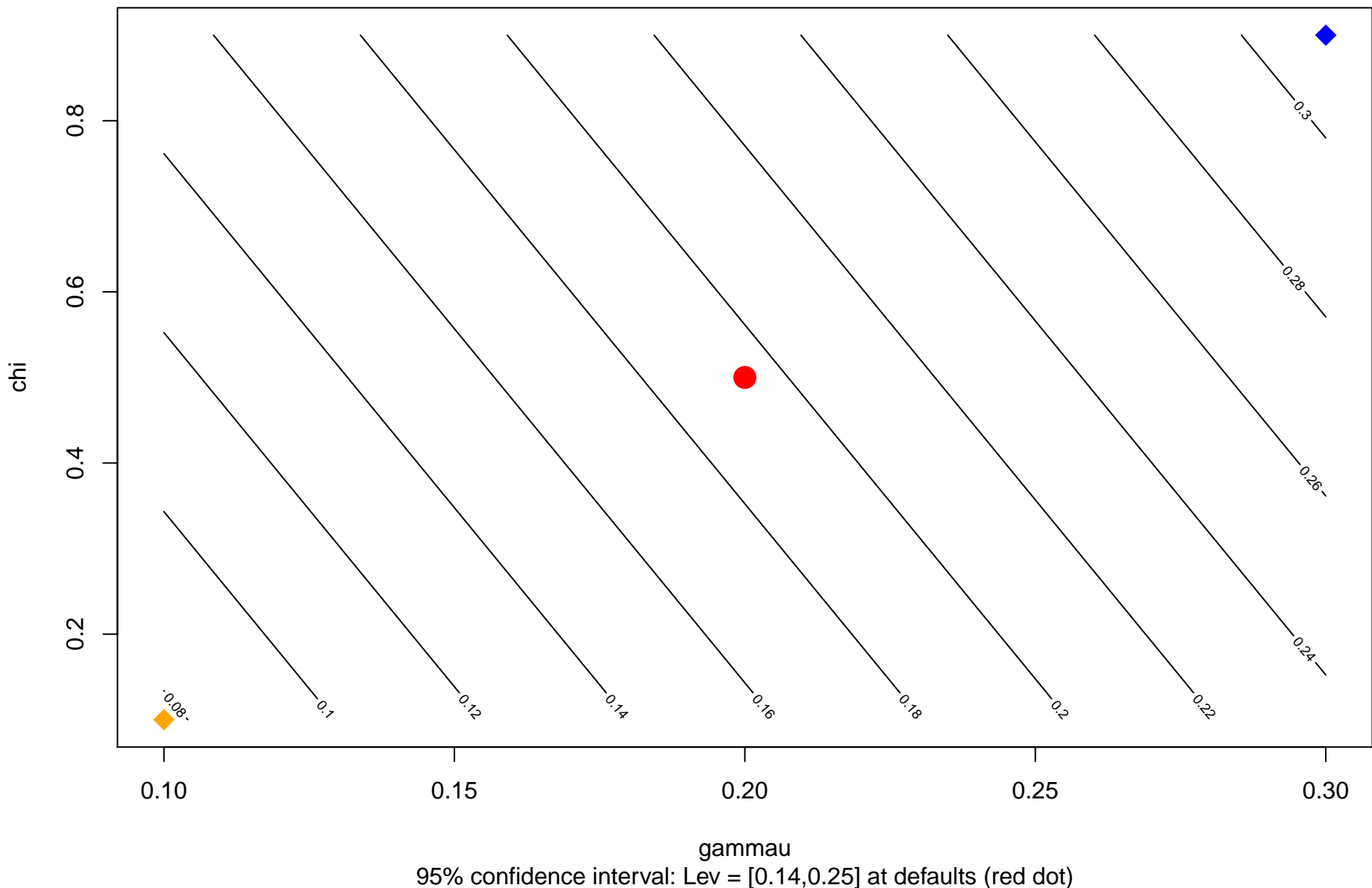
Meta−model response surface (varPhi1 = 1)

gammau

95% confidence interval: Lev = [0.14,0.25] at defaults (red dot)

Meta−model response surface (varPhi1 = 1.5)

chi

0.32
0.3
0.28
0.26

0.12 0.14 0.16 0.18 0.2 0.22 0.24

gammau
All other parameters are at default settings