FIGURE 1: Mean square error, bias and empirical confidence level for the AR(1) models.

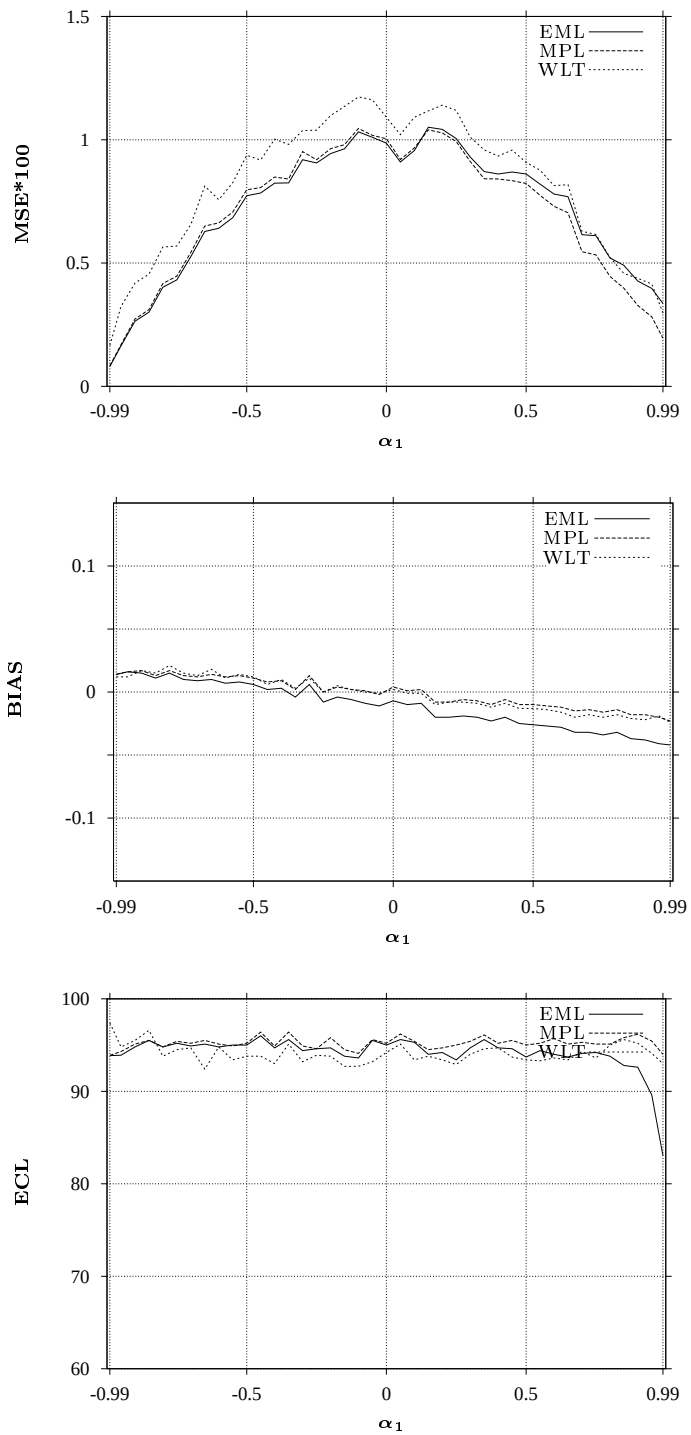


FIGURE 2: Mean square error, bias and empirical confidence level for the MA(1) models.

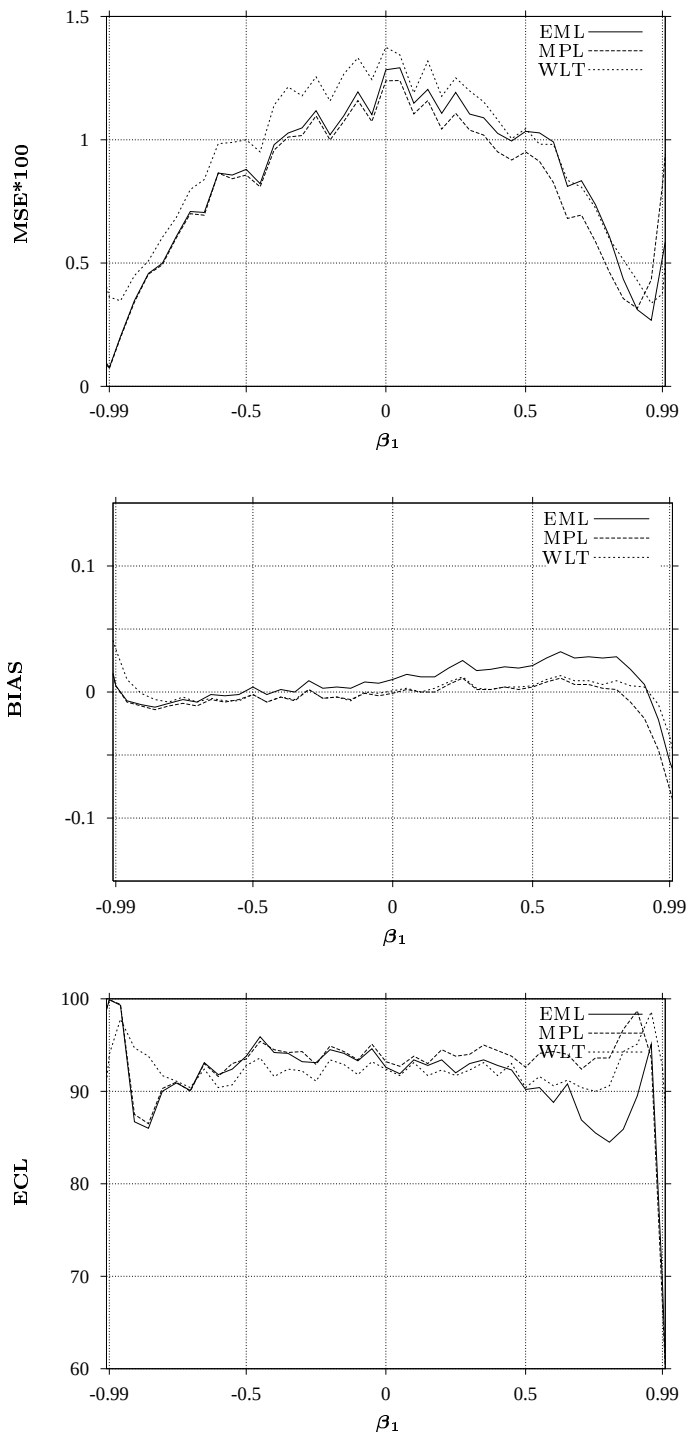


FIGURE 3: Mean square error, bias and empirical confidence level for the FI(d) models.

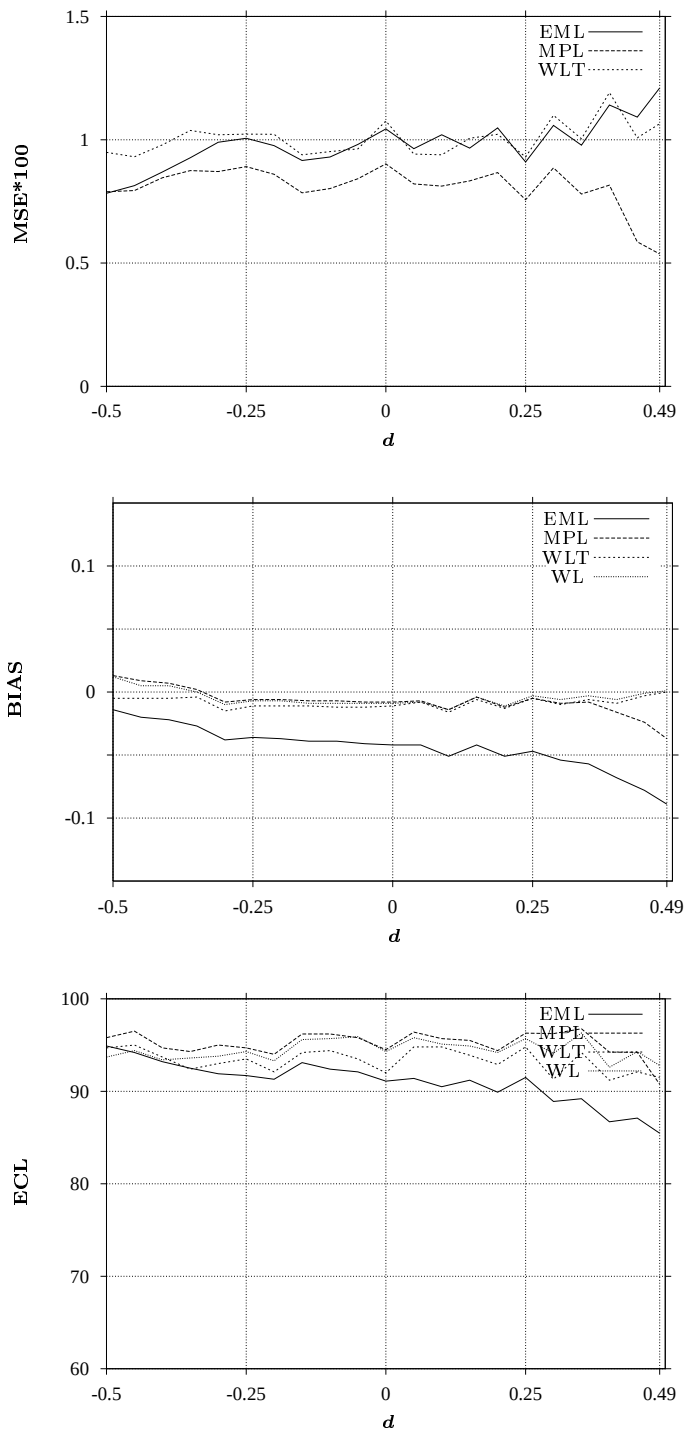


FIGURE 4: Mean square error for the AR(2) models with real roots $z_{1,2}$ with $1/z_1 = -0.95, \ldots, -0.05$, and $1/z_2 = 1/z_1 + 0.05$; $1/z_1 = 0.05, \ldots, 0.95$, and $1/z_2 = 1/z_1 - 0.05$.

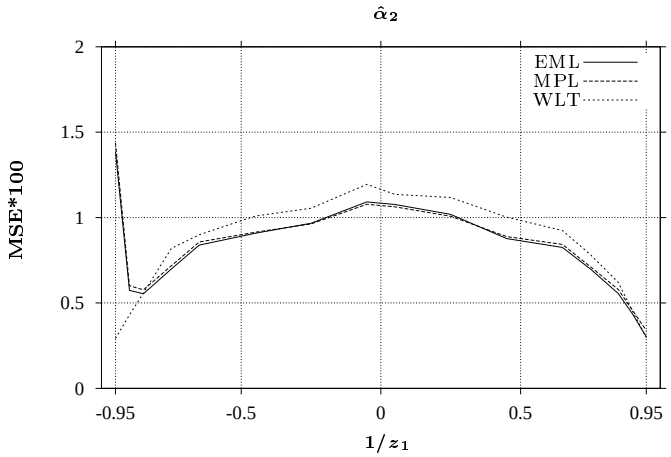


FIGURE 5: Mean square error for the MA(2) models with real roots $z_{1,2}$ with $1/z_1 = -1.00, -0.95, \ldots, -0.05$, and $1/z_2 = 1/z_1 + 0.05$; $1/z_1 = 0.05, \ldots, 0.95, 1.00$, and $1/z_2 = 1/z_1 - 0.05$.

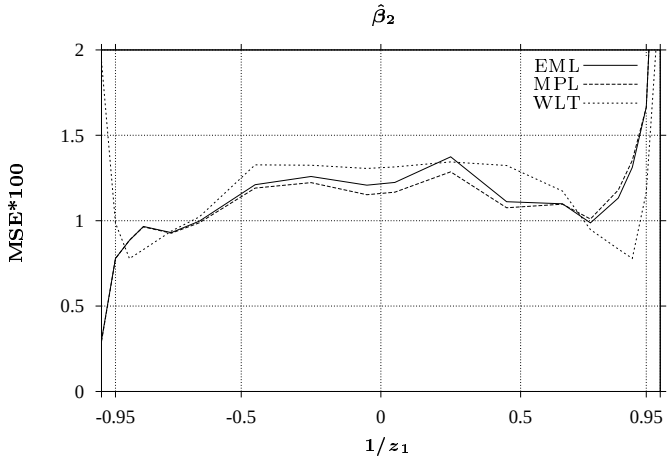


FIGURE 6: Mean square error for the AR(2) models with complex roots $z_{1,2} = re^{\pm i\lambda}$ with $1/r = 0.95$ and $\lambda = 0, \frac{\pi}{10}, 2\frac{\pi}{10}, \ldots, 9\frac{\pi}{10}, \pi$.

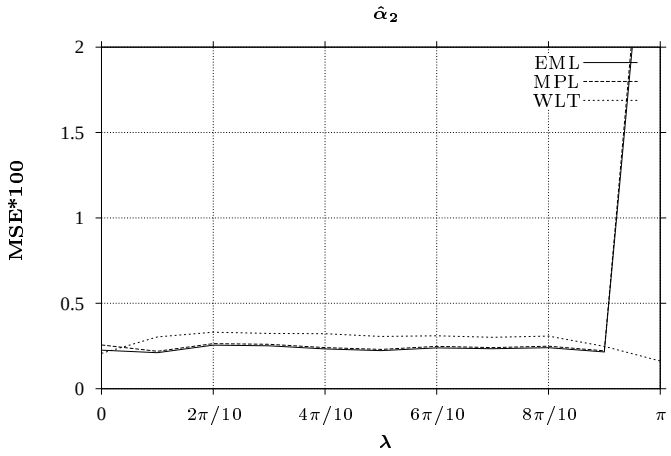
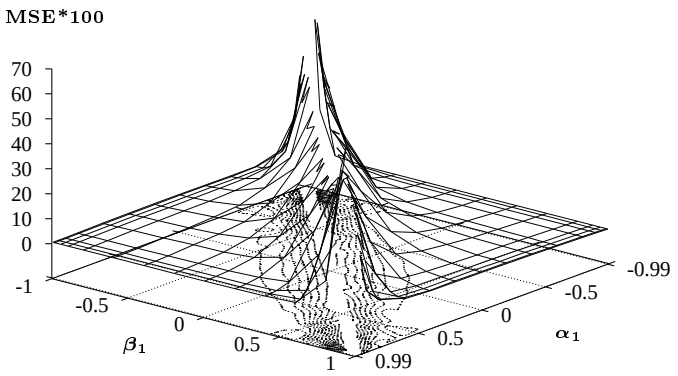


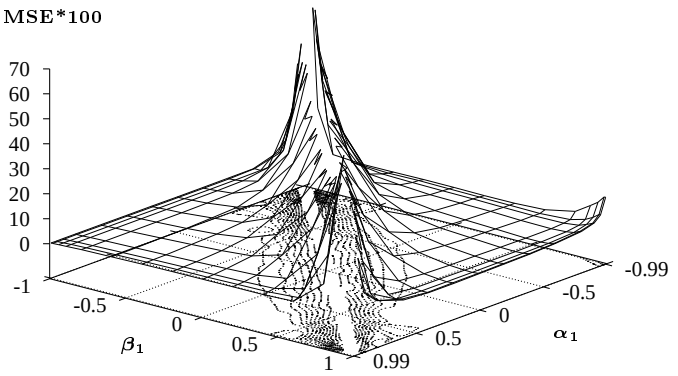
FIGURE 7: Results for the ARMA(1,1) models.

FIGURE 7.a: Mean square error for the ARMA(1,1) models.

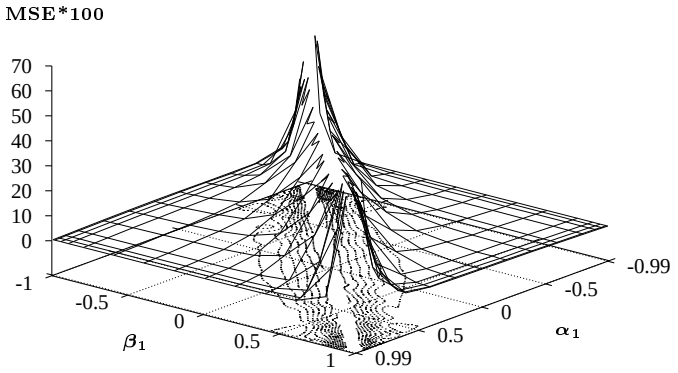
EML – $\hat{\alpha}_1$



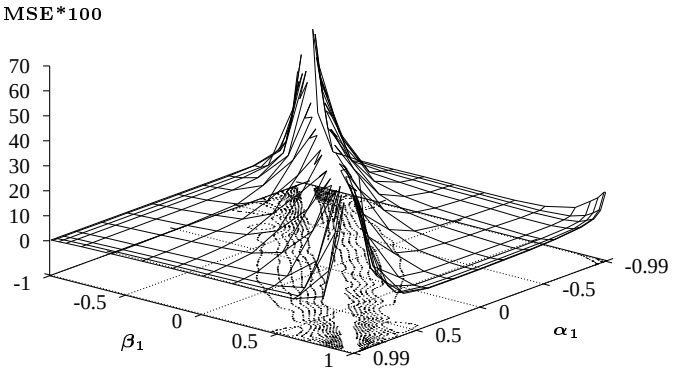
EML – $\hat{\beta}_1$



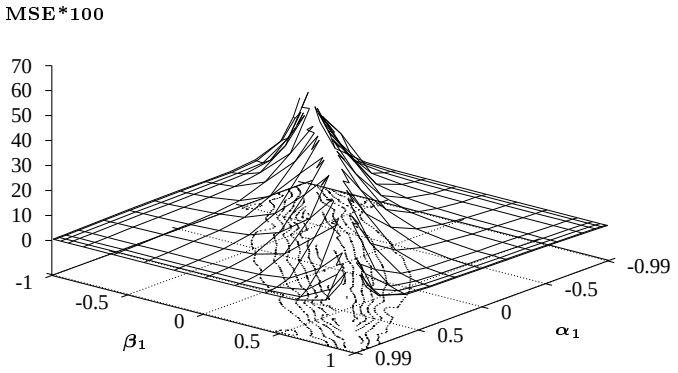
MPL – $\hat{\alpha}_1$



MPL – $\hat{\beta}_1$



WLT – $\hat{\alpha}_1$



WLT – $\hat{\beta}_1$

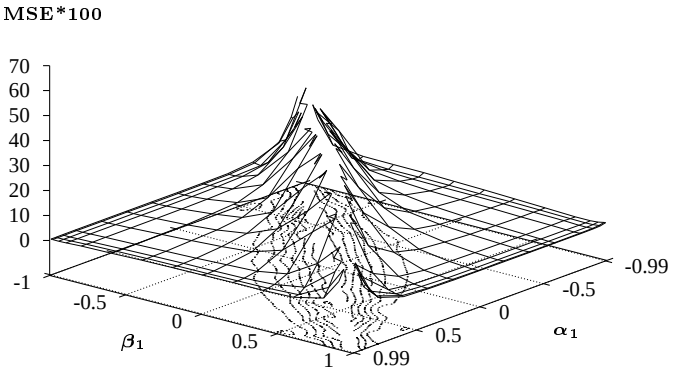
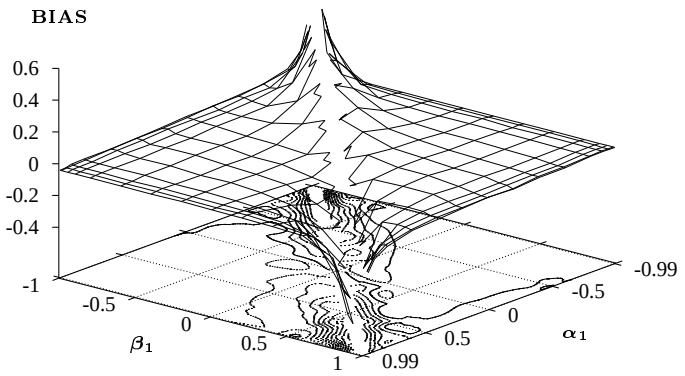
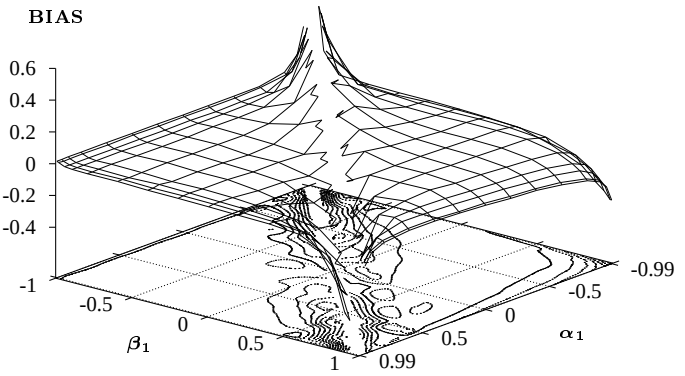


FIGURE 7.b: Bias for the ARMA(1,1) models.

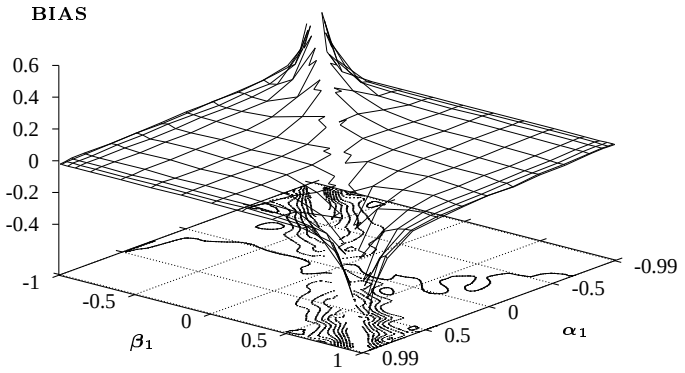
EML – $\hat{\alpha}_1$



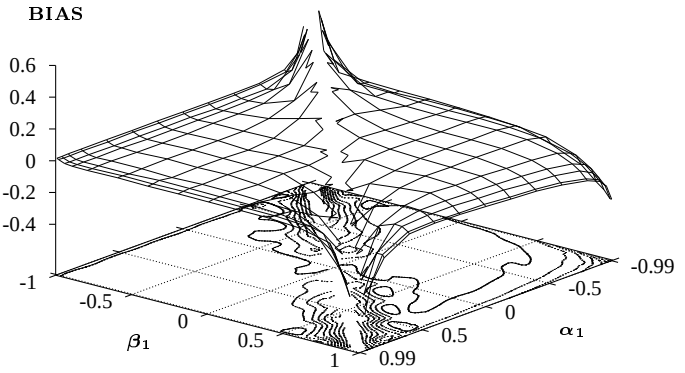
EML – $\hat{\beta}_1$



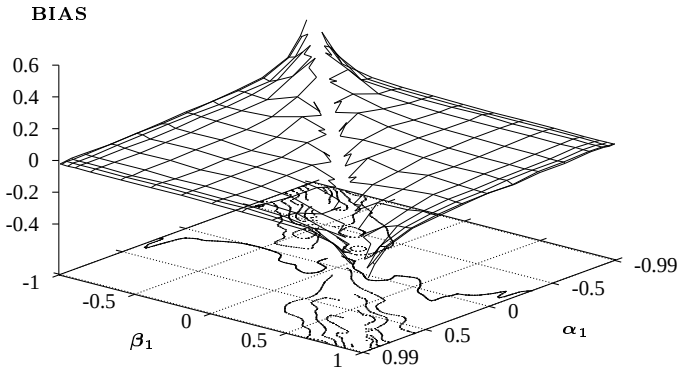
MPL – $\hat{\alpha}_1$



MPL – $\hat{\beta}_1$



WLT – $\hat{\alpha}_1$



WLT – $\hat{\beta}_1$

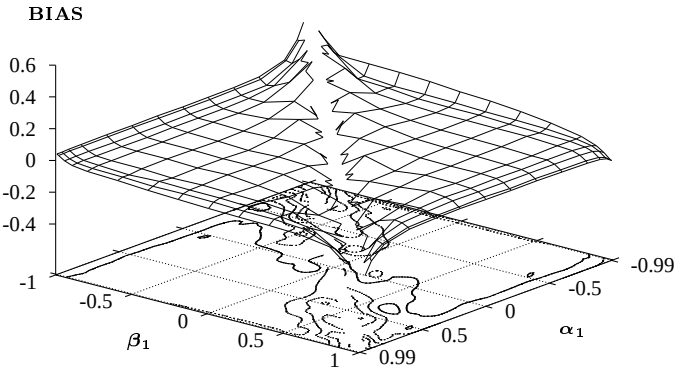


FIGURE 7.c: Empirical confidence level for the ARMA(1,1) models.

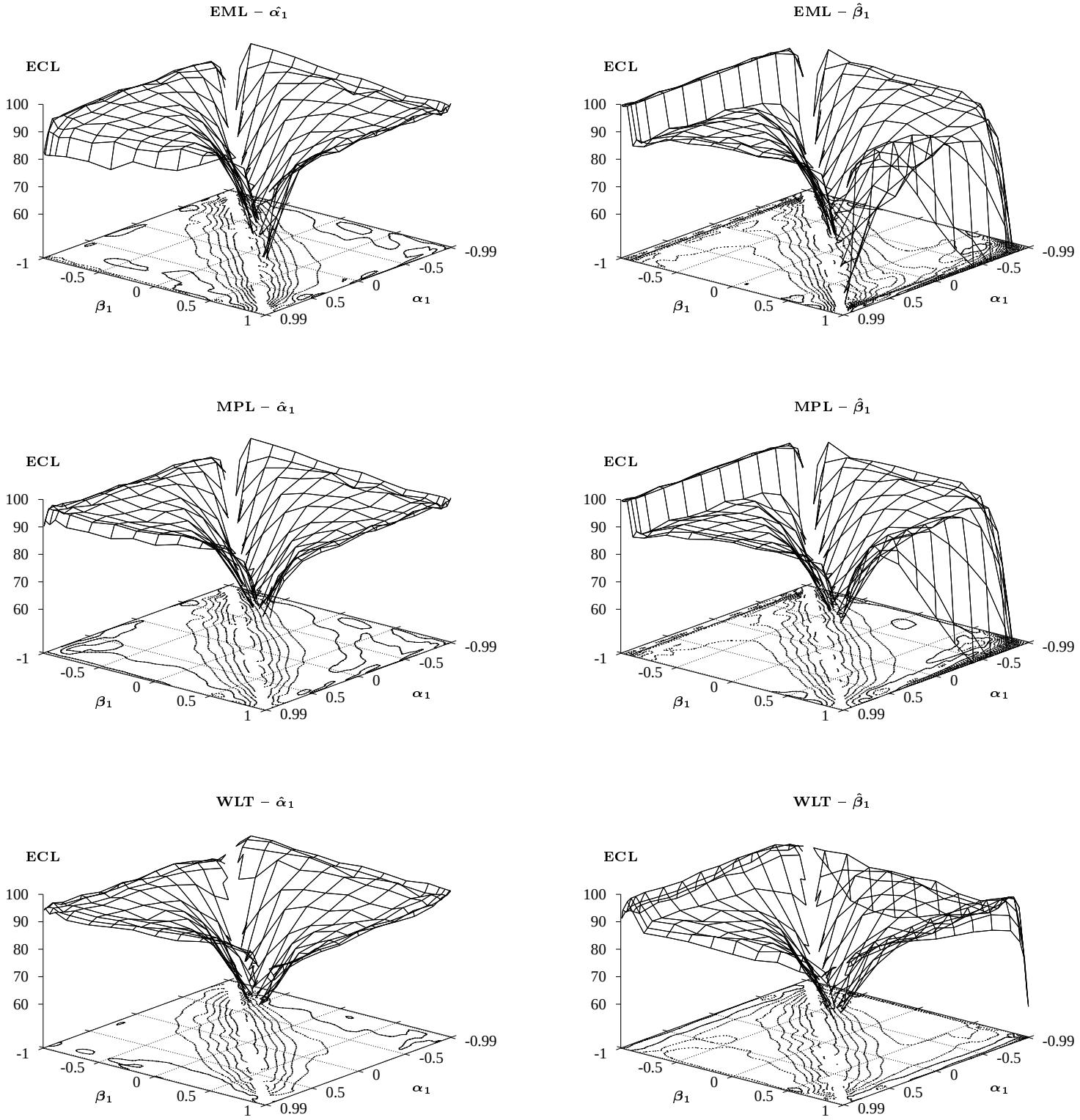
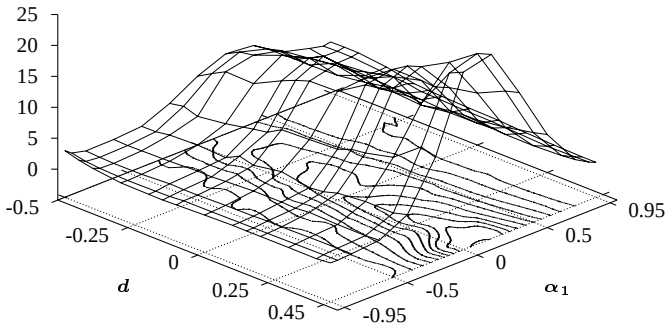


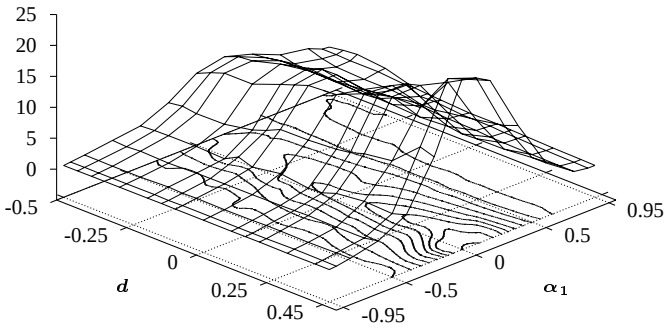
FIGURE 8: Results for the ARFIMA(1,d,0) models.

FIGURE 8.a: Mean square error for the ARFIMA(1,d,0) models.

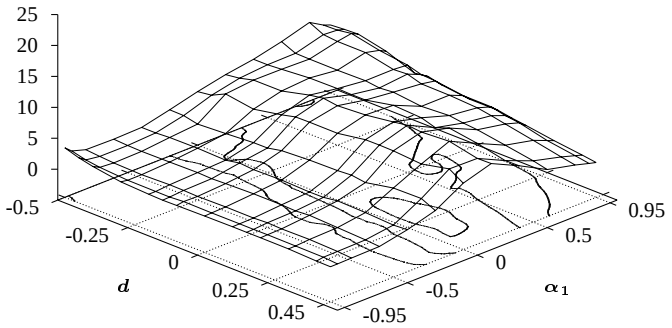
EML – $\hat{d}$



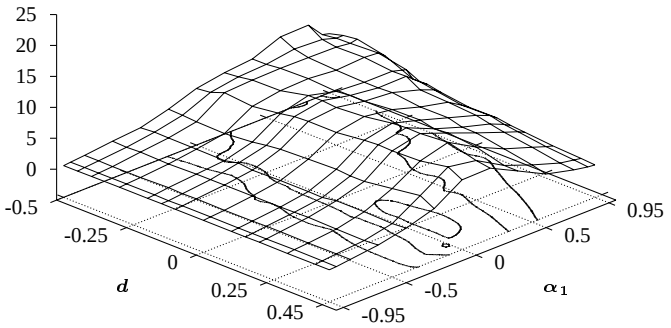
EML – $\hat{\alpha}_1$



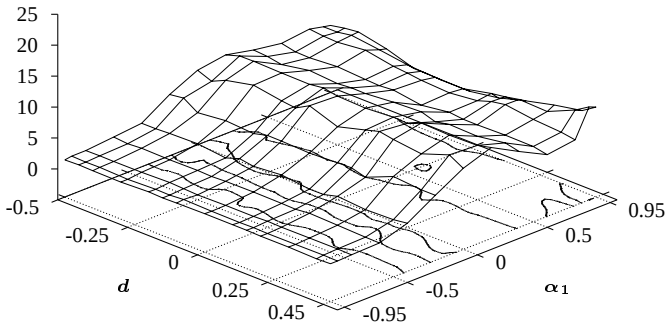
MPL – $\hat{d}$



MPL – $\hat{\alpha}_1$



WLT – $\hat{d}$



WLT – $\hat{\alpha}_1$

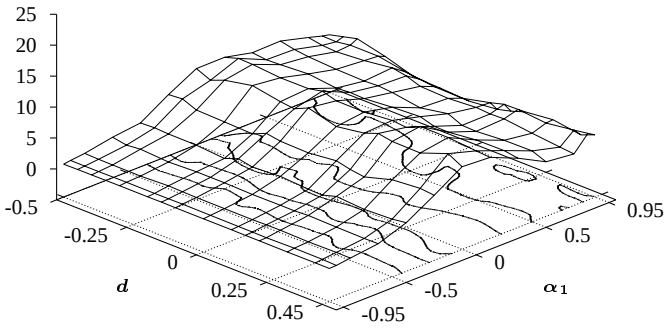
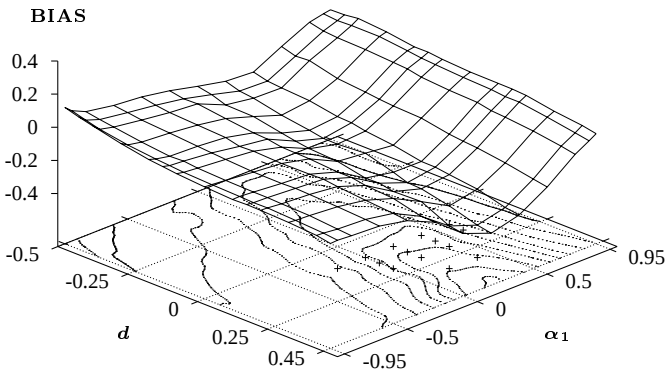
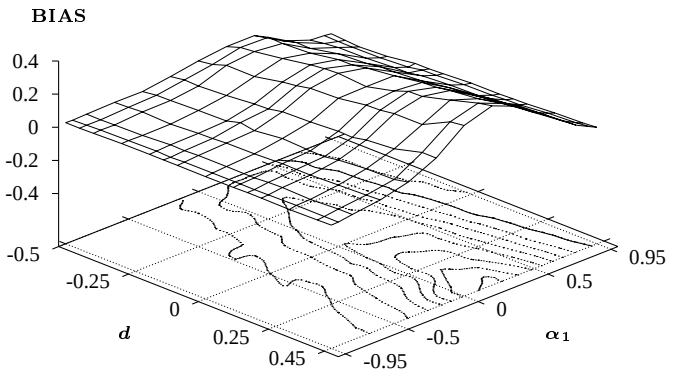


FIGURE 8.b: Bias for the ARFIMA(1,d,0) models. A cross indicates a wrong sign of the average $\hat{d}$.

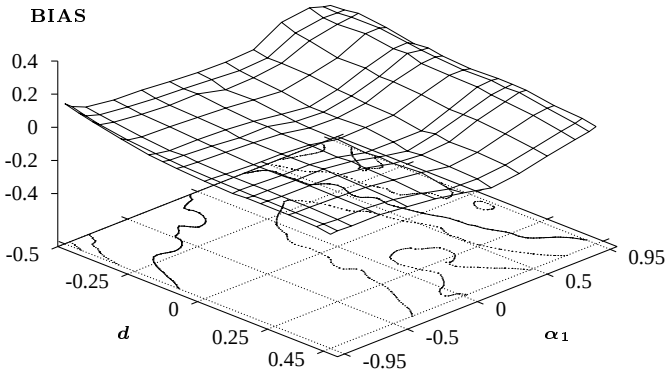
EML – $\hat{d}$



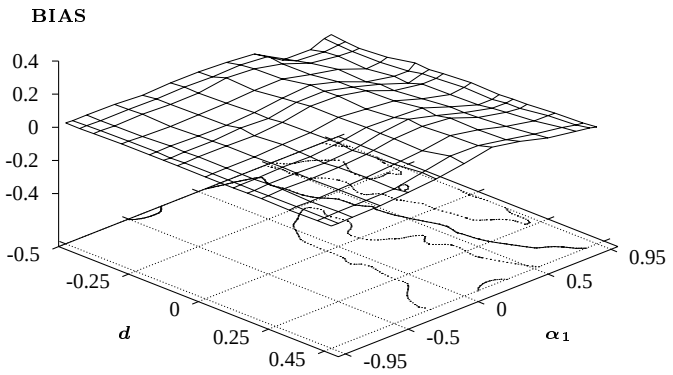
EML – $\hat{\alpha}_1$



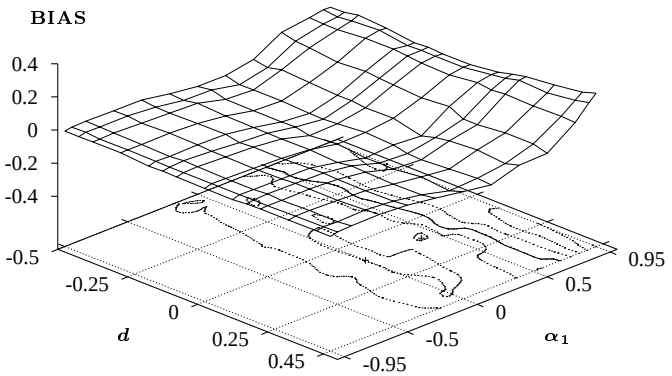
MPL – $\hat{d}$



MPL – $\hat{\alpha}_1$



WLT – $\hat{d}$



WLT – $\hat{\alpha}_1$

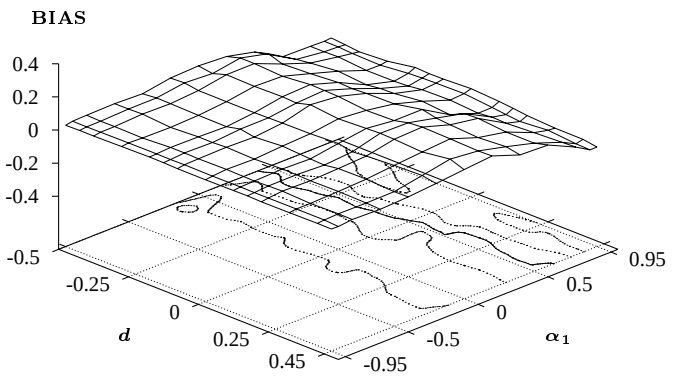


FIGURE 8.c: Empirical confidence level for the ARFIMA(1,d,0) models.

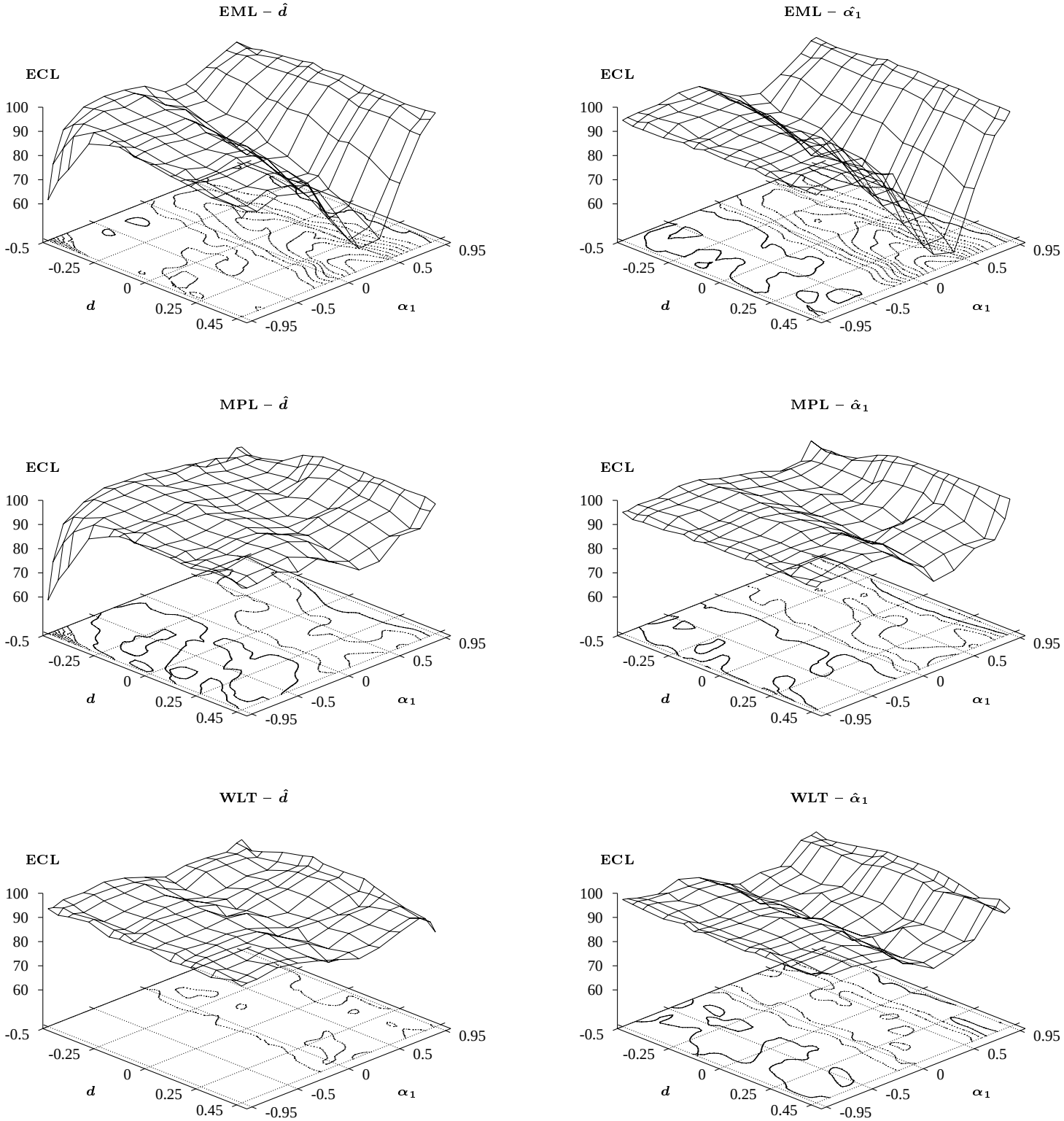


FIGURE 9: Spectrum of the ARFIMA(1,d,0) model with $d = 0.15$, and $\alpha_1 = 0.20$, and spectrum of the median model estimated by EML with $\text{med}(\hat{d}) = -0.105$ and $\text{med}(\hat{\alpha}_1) = 0.426$ (dashed line).

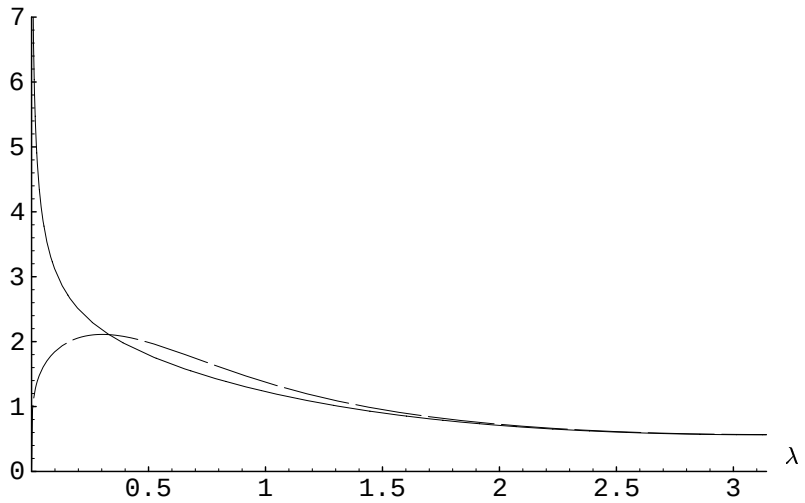
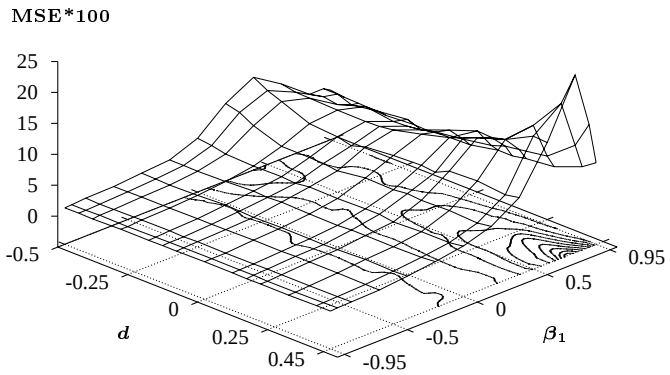


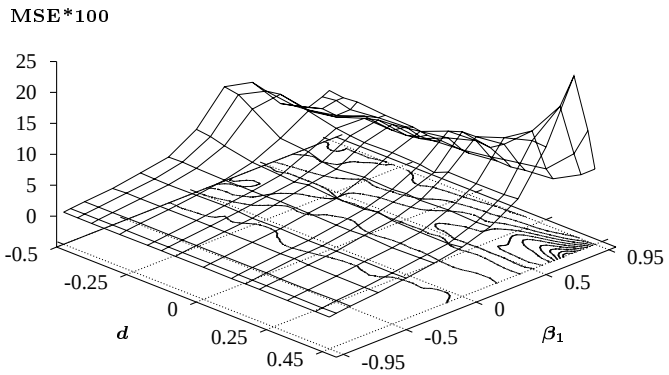
FIGURE 10: Results for the ARFIMA(0,d,1) models.

FIGURE 10.a: Mean square error for the ARFIMA(0,d,1) models.

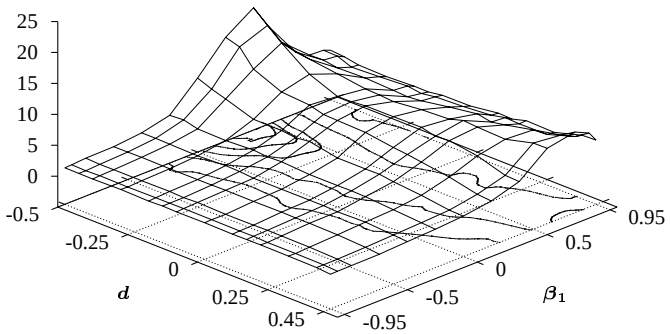
EML – $\hat{d}$



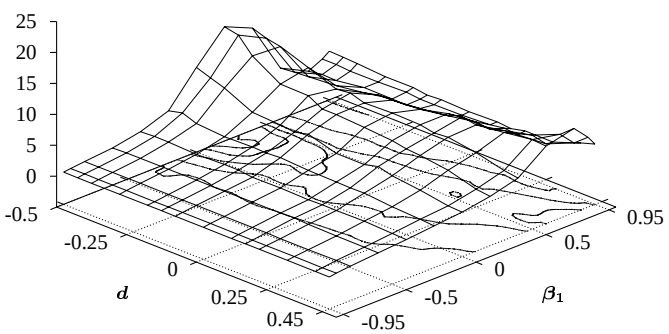
EML – $\hat{\beta}_1$



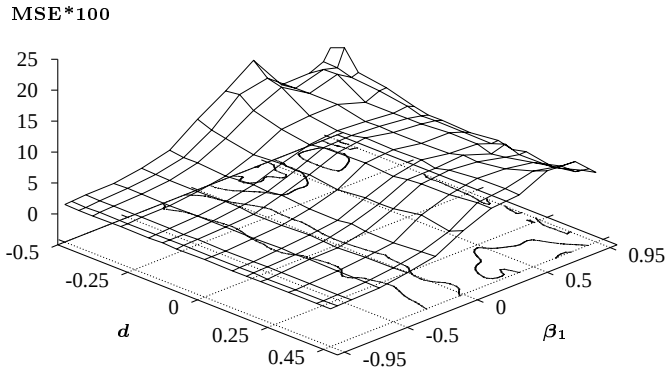
MPL – $\hat{d}$



MPL – $\hat{\beta}_1$



WLT – $\hat{d}$



WLT – $\hat{\beta}_1$

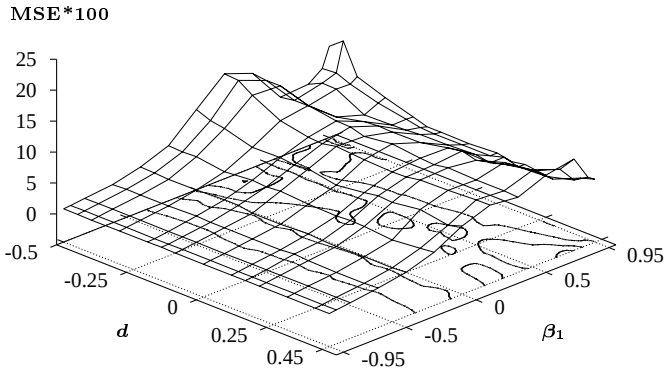
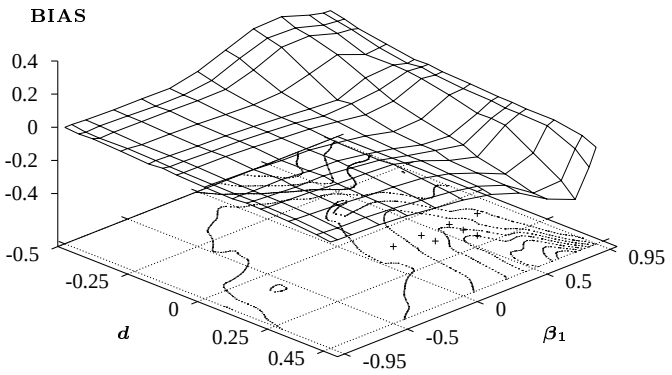
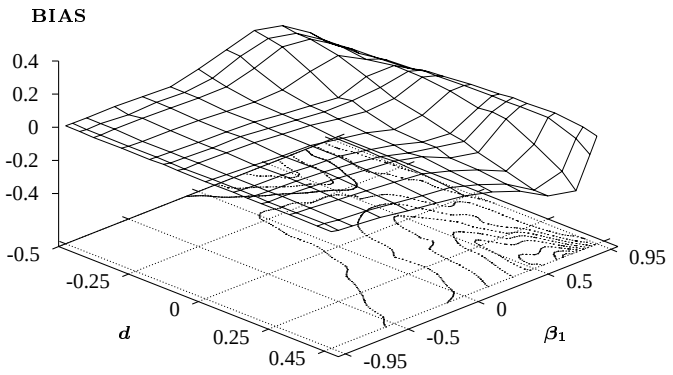


FIGURE 10.b: Bias for the ARFIMA(0,d,1) models. A cross indicates a wrong sign of the average $\hat{d}$.

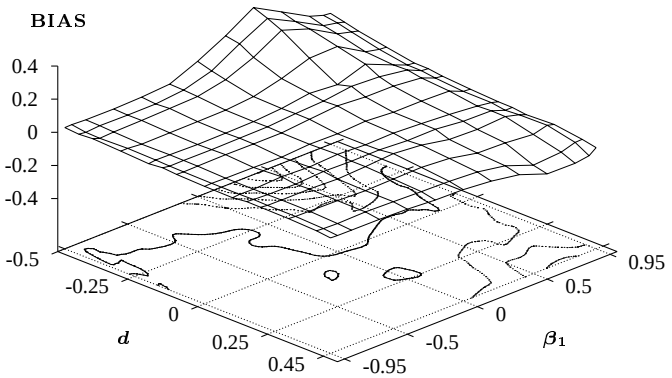
EML – $\hat{d}$



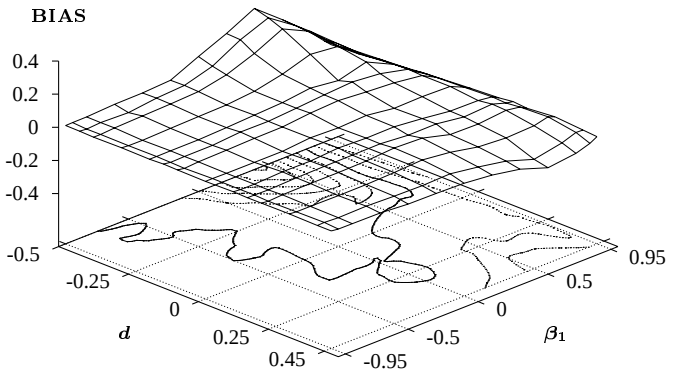
EML – $\hat{\beta}_1$



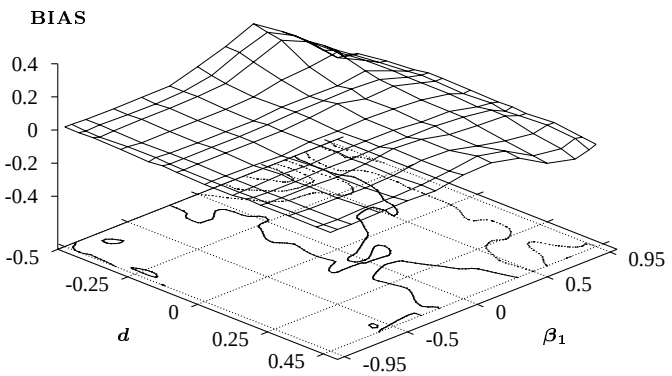
MPL – $\hat{d}$



MPL – $\hat{\beta}_1$



WLT – $\hat{d}$



WLT – $\hat{\beta}_1$

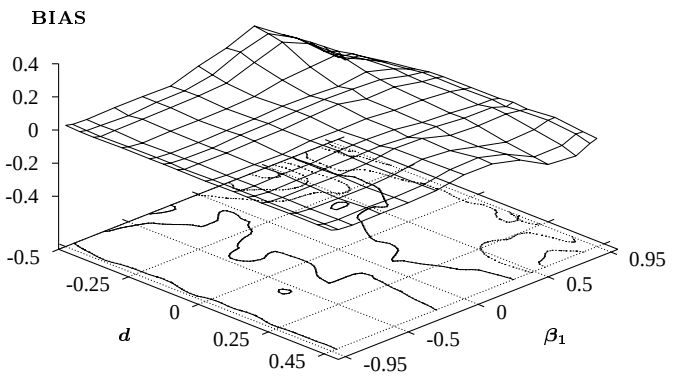
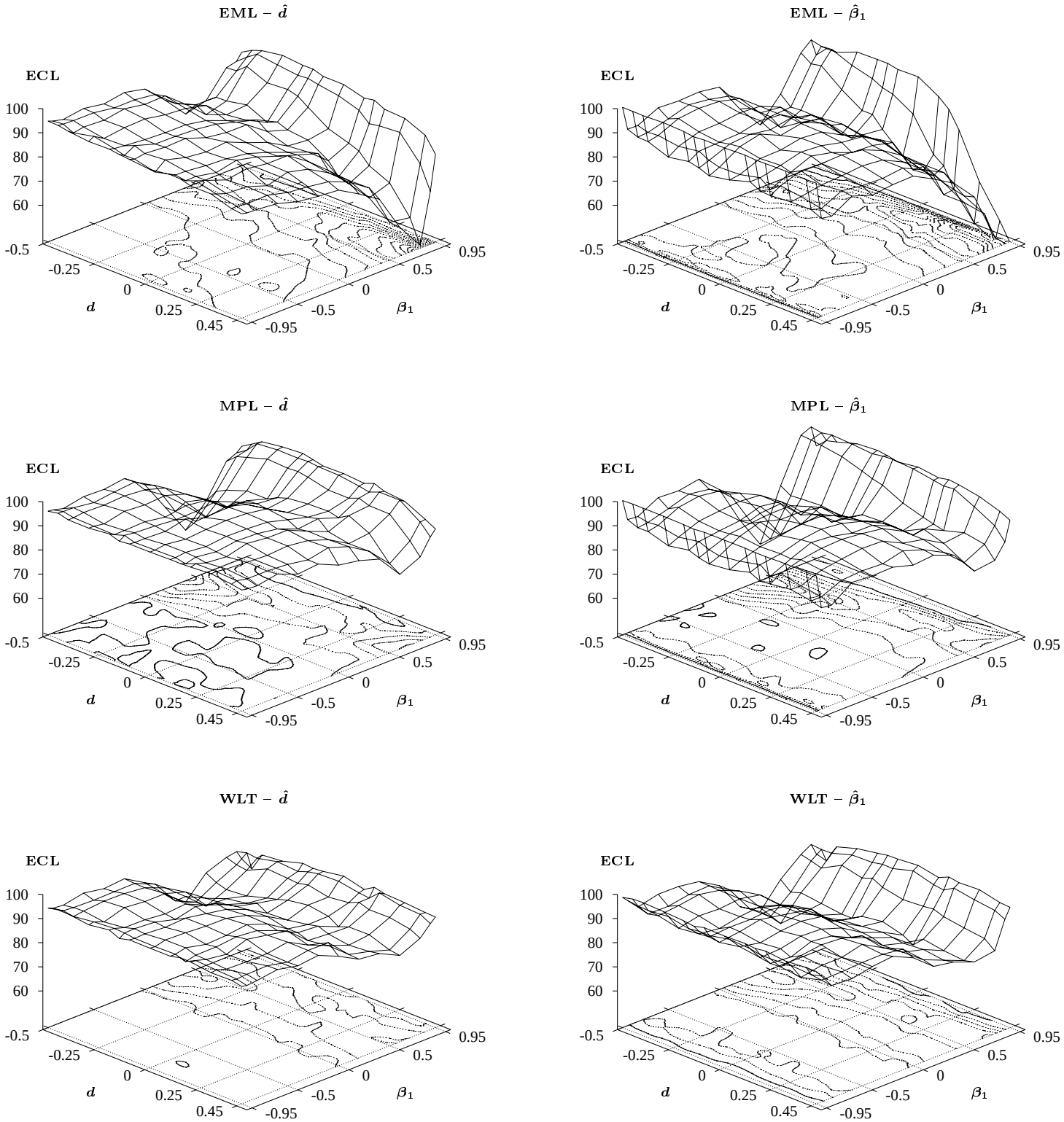



FIGURE 10.c: Empirical confidence level for the ARFIMA(0,d,1) models.