
Adaptive Gaussian copula ABC

– Supplementary Materials –

Yanzhi Chen
The University of Edinburgh

Michael U. Gutmann
The University of Edinburgh

A Contour plots of the residuals in each problem

A.1 Gaussian copula toy problem

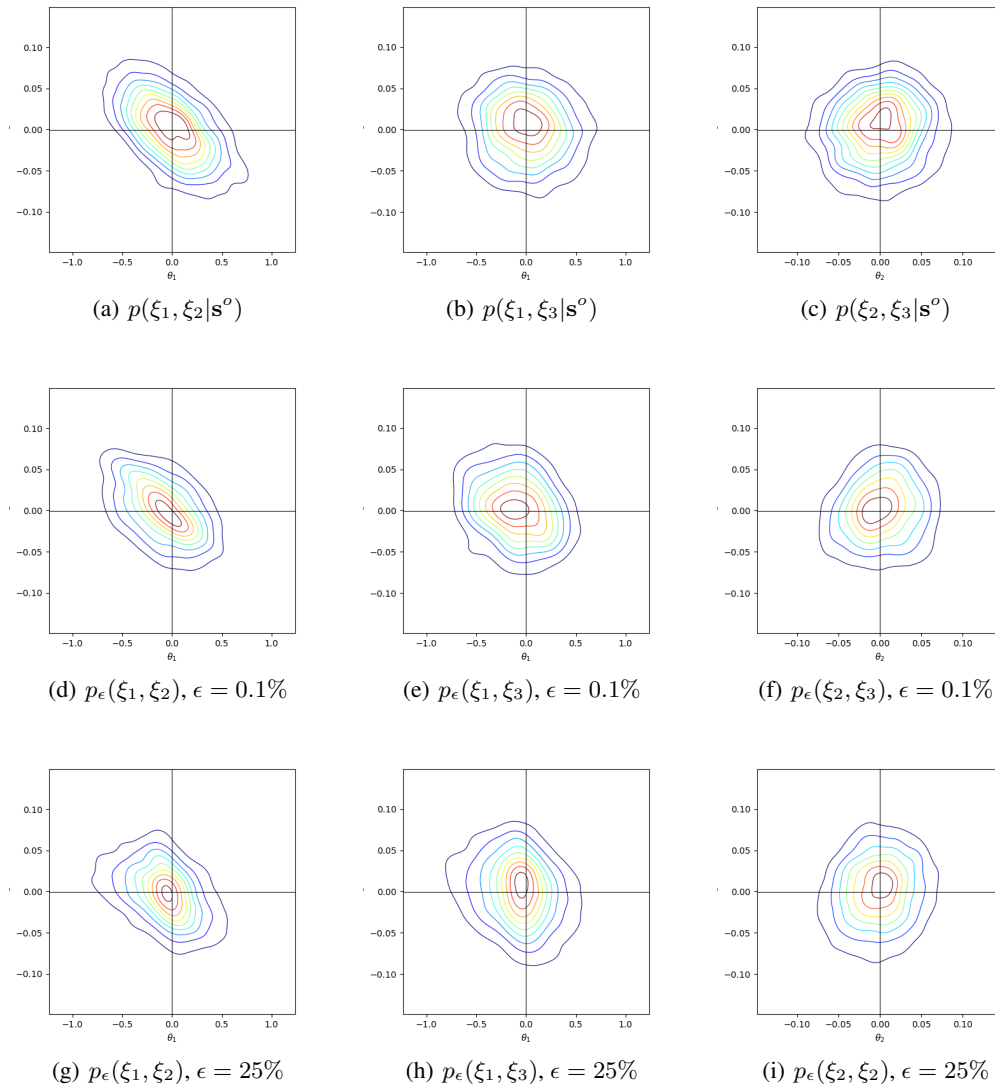


Figure 1: Gaussian copula toy problem: visualizing the distribution of the residuals at \mathbf{s}^o and the distribution $p_\epsilon(\boldsymbol{\xi})$ of the residuals within ϵ -balls of different radii.

A.2 M/G/1 problem

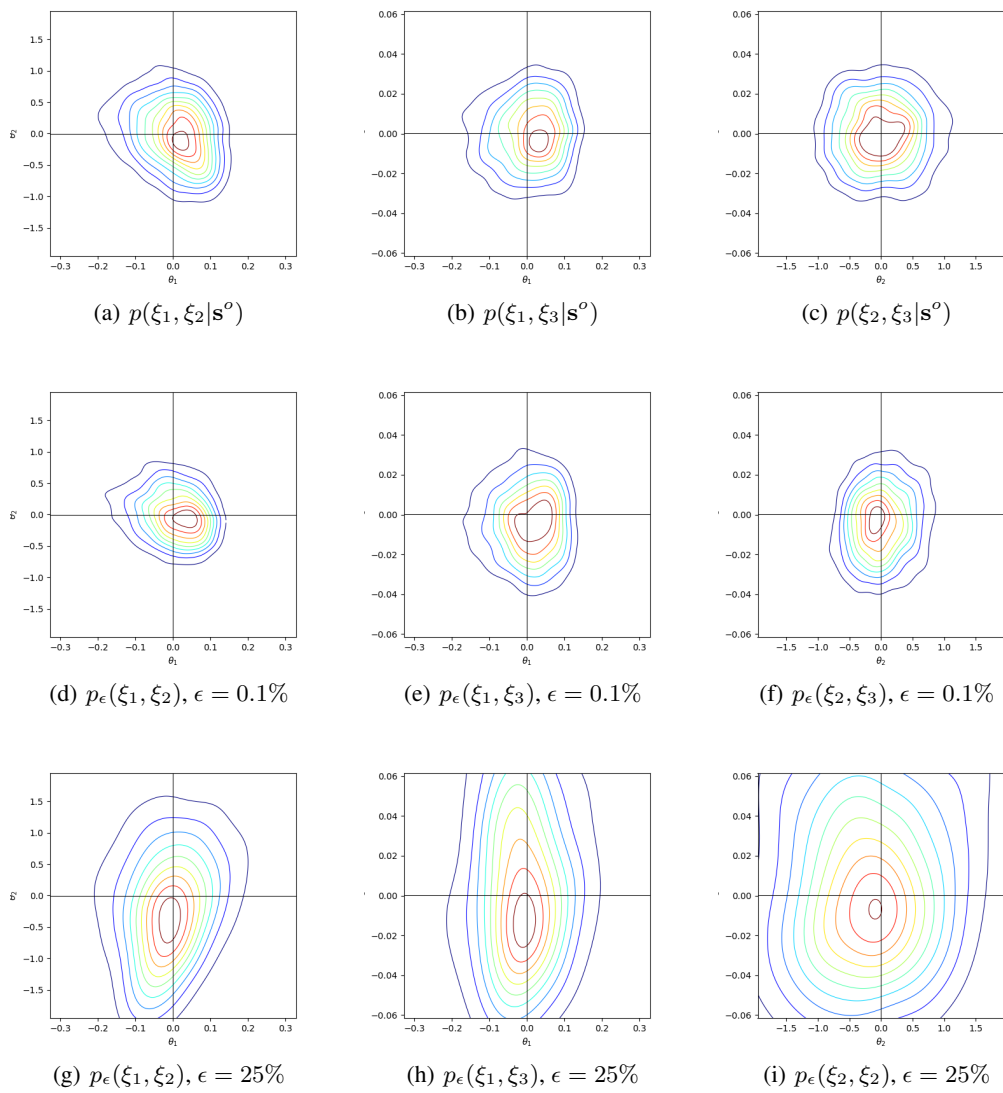
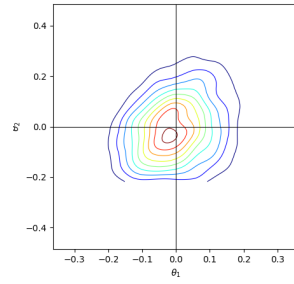
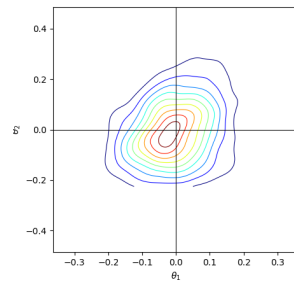


Figure 2: M/G/1 problem: visualizing the distribution of the residuals at \mathbf{s}^o and the distribution $p_\epsilon(\boldsymbol{\xi})$ of the residuals within ϵ -balls of different radii.

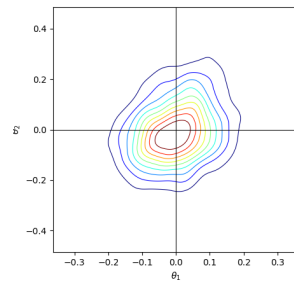
A.3 MA(2) problem



(a) $p(\xi_1, \xi_2 | \mathbf{s}^o)$



(b) $p_\epsilon(\xi_1, \xi_2), \epsilon = 0.1\%$



(c) $p_\epsilon(\xi_1, \xi_2), \epsilon = 25\%$

Figure 3: MA(2): visualizing the distribution of the residuals at \mathbf{s}^o and the distribution $p_\epsilon(\boldsymbol{\xi})$ of the residuals within ϵ -balls of different radii.

A.4 Lotka-Volterra problem

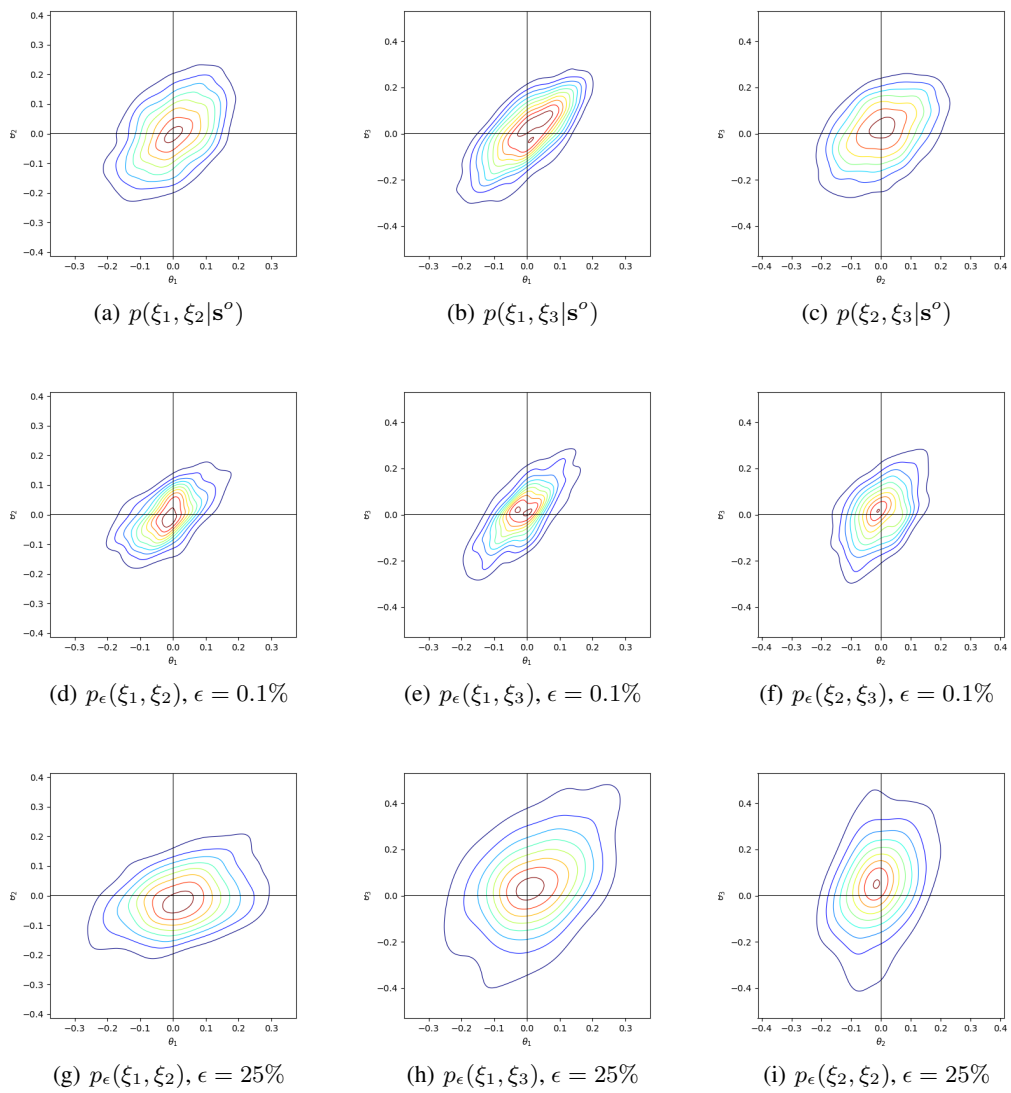
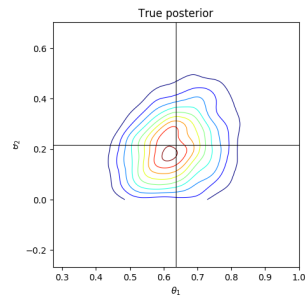
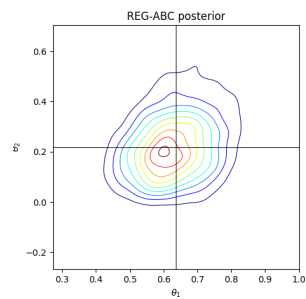


Figure 4: Lotka-Volterra problem: visualizing the distribution of the residuals at \mathbf{s}^o and the distribution $p_\epsilon(\boldsymbol{\xi})$ of the residuals within ϵ -balls of different radii.

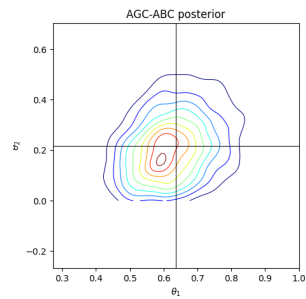
B Contour plots of approximate posterior learned by each method in MA(2)



(a) True posterior



(b) REG-ABC posterior



(c) AGC-ABC posterior

Figure 5: MA2 problem: the contour plots of the posteriors learned in each method with simulation budget $N = 2,500$.