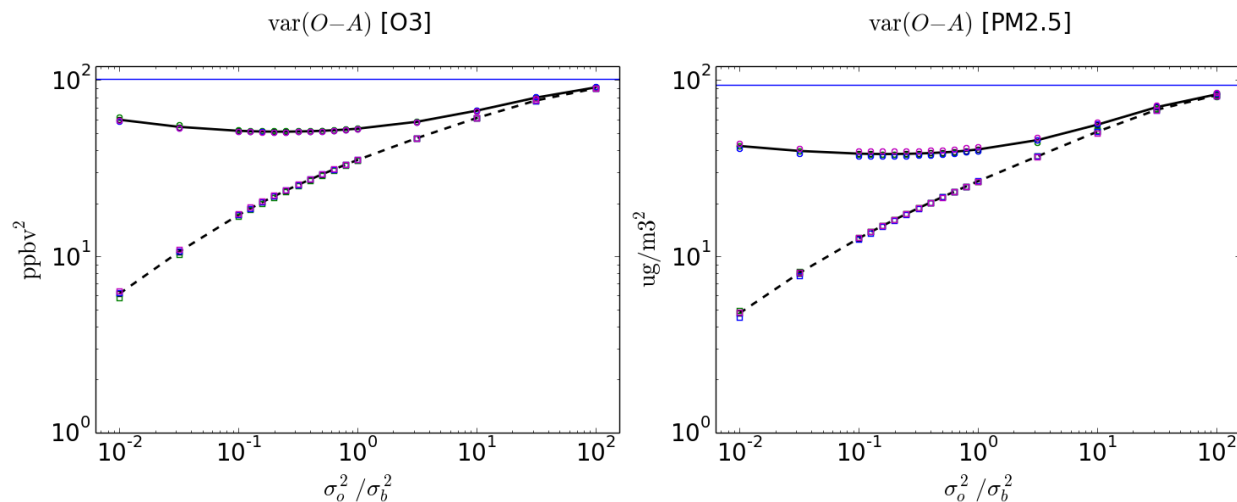# Evaluation of Analysis by Cross-Validation: Part I

Richard Ménard and Martin Deshaies-Jacques
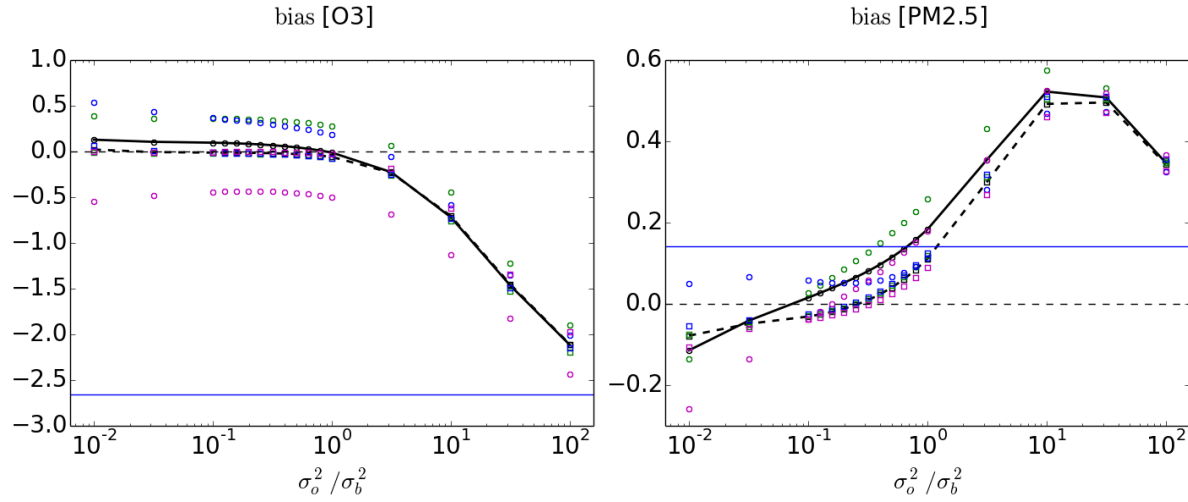
var(O−A) [O3]   var(O−A) [PM2.5]

Figure S1. Variance of the observation-minus-residuals of O₃ (left panel) and PM₂.₅ (right panel) for the individual sets of cross-validation as a function of $\gamma = \sigma_o^2/\sigma_b^2$. Left panel is for O₃ with ordinates in ppbv² units, and right panel is for PM₂.₅ with ordinates in $(\mu g/m^3)^2$. Circles are the individual subset results from the evaluation at the passive observation sites. Squares are the individual subset results from the evaluation at the active observation sites in the cross-validation experiment (i.e. using 2/3 of the observations). Blue curve is the variance of observation-minus-model. Note that the 3 subset results almost coincide.

correlation(O,A) [O3]   correlation(O,A) [PM2.5]
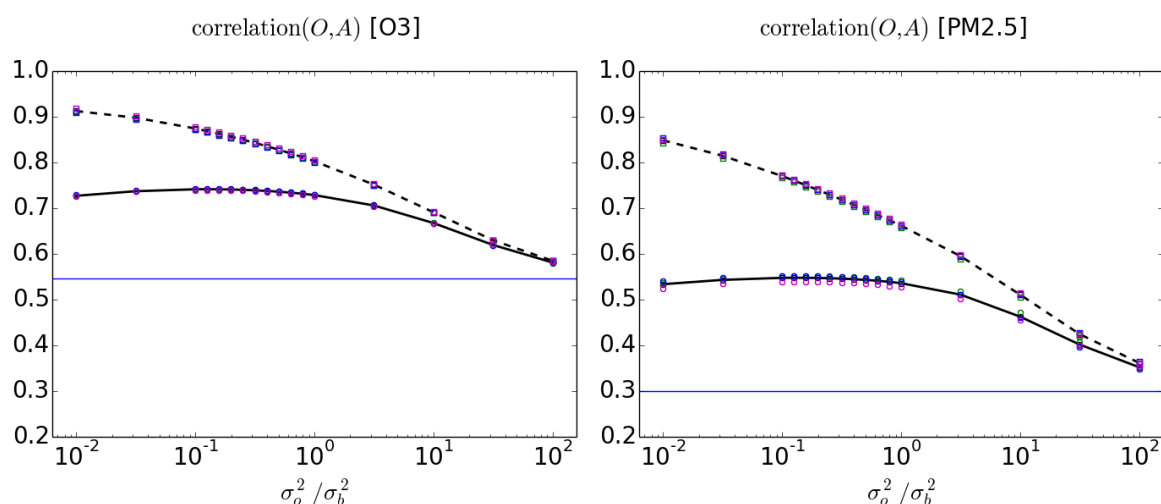
Figure S2. Correlation between observations and analysis of O₃ (left panel) and PM₂.₅ (right panel) for the individual sets of cross-validation as a function of $\gamma = \sigma_o^2/\sigma_b^2$. Symbols and lines same as for Figure S1.
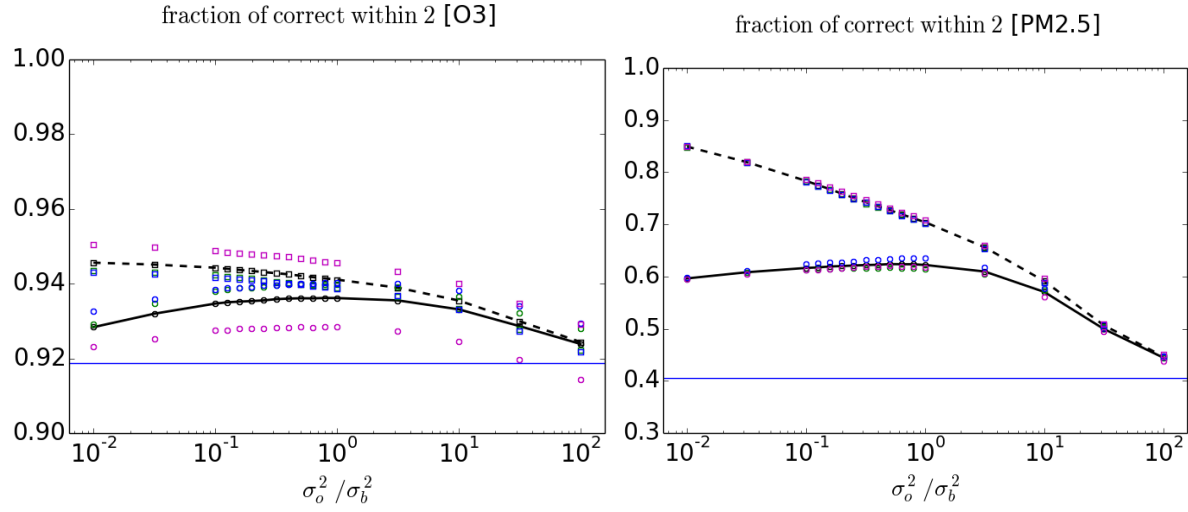
Figure S3. Fraction of correct within a factor 2 for O₃ (left panel) and PM2.5 (right panel) for the individual sets of cross-validation as a function of $\gamma = \sigma_o^2 / \sigma_b^2$. Symbols and lines same as for Figure S1.

Figure S4. Bias between observations and analysis of O₃ (left panel) and PM2.5 (right panel) for the individual sets of cross-validation as a function of $\gamma = \sigma_o^2 / \sigma_b^2$. Symbols and lines same as for Figure S1.
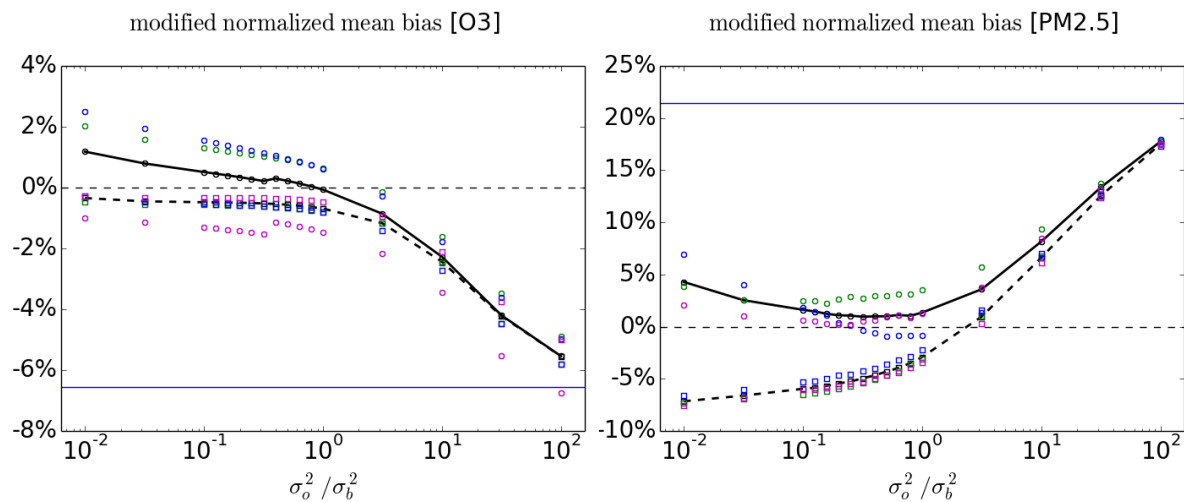
Figure S5. Modified normalized mean bias of O_3 (left panel) and $PM_{2.5}$ (right panel) for the individual sets of cross-validation as a function of $\gamma = \sigma_o^2 / \sigma_b^2$. Symbols and lines same as for Figure S1.