

New Figure Ideas CVT

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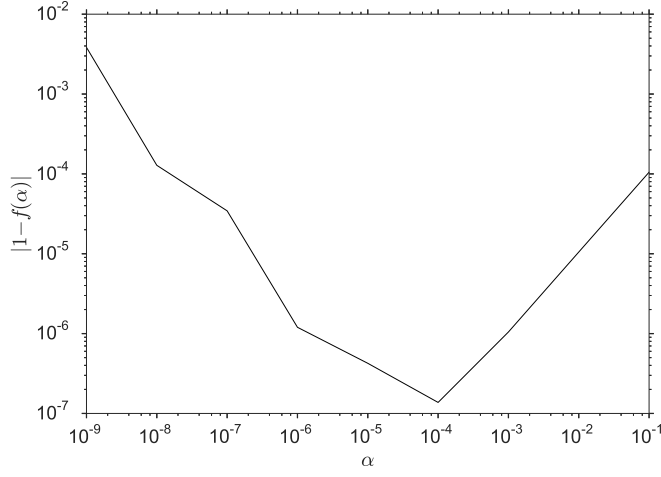
October 28, 2015

Experiment	RMSE (gCm^{-2})	Bias (gCm^{-2})	Correlation coefficient	Minimisation function evaluations
Background	3.86	-1.60	0.70	n/a
A	1.36	-0.02	0.96	431
B	1.40	-0.03	0.95	298
C	1.37	-0.09	0.96	259
D	1.41	-0.08	0.95	279

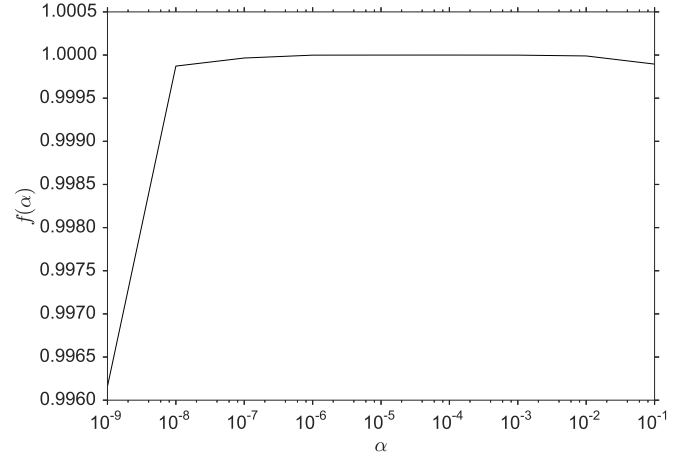
Table 1: CVT Analysis (1999-2000) results for experiments and background when judged against observed NEE.

Experiment	RMSE (gCm^{-2})	Bias (gCm^{-2})	Correlation coefficient	Minimisation function evaluations
Background	3.86	-1.36	0.66	n/a
A	5.22	-0.61	0.76	571
B	2.49	-0.26	0.87	353
C	3.76	-0.63	0.81	444
D	2.31	-0.39	0.89	316

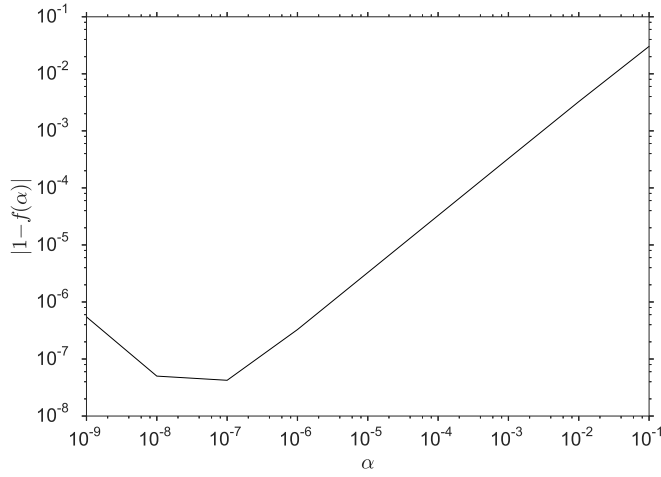
Table 2: CVT Forecast (2000-2014) results for experiments and background when judged against observed NEE.



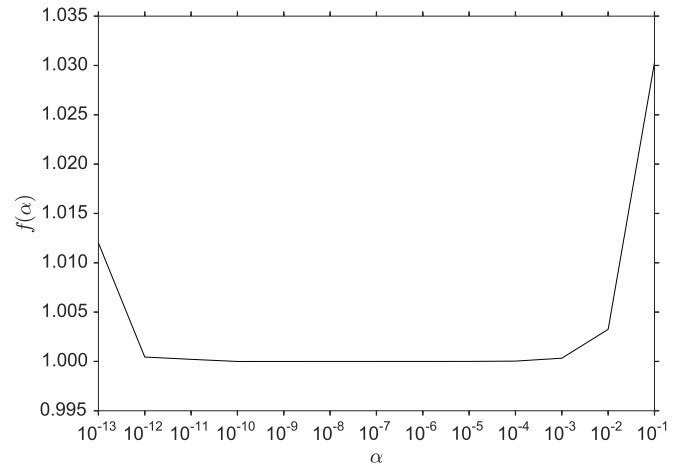
(a) $|1 - f(\alpha)|$



(b) $f(\alpha)$



(c) $|1 - f(\alpha)|$ CVT



(d) $f(\alpha)$ CVT

Figure 1: Tests of gradient of the cost function.

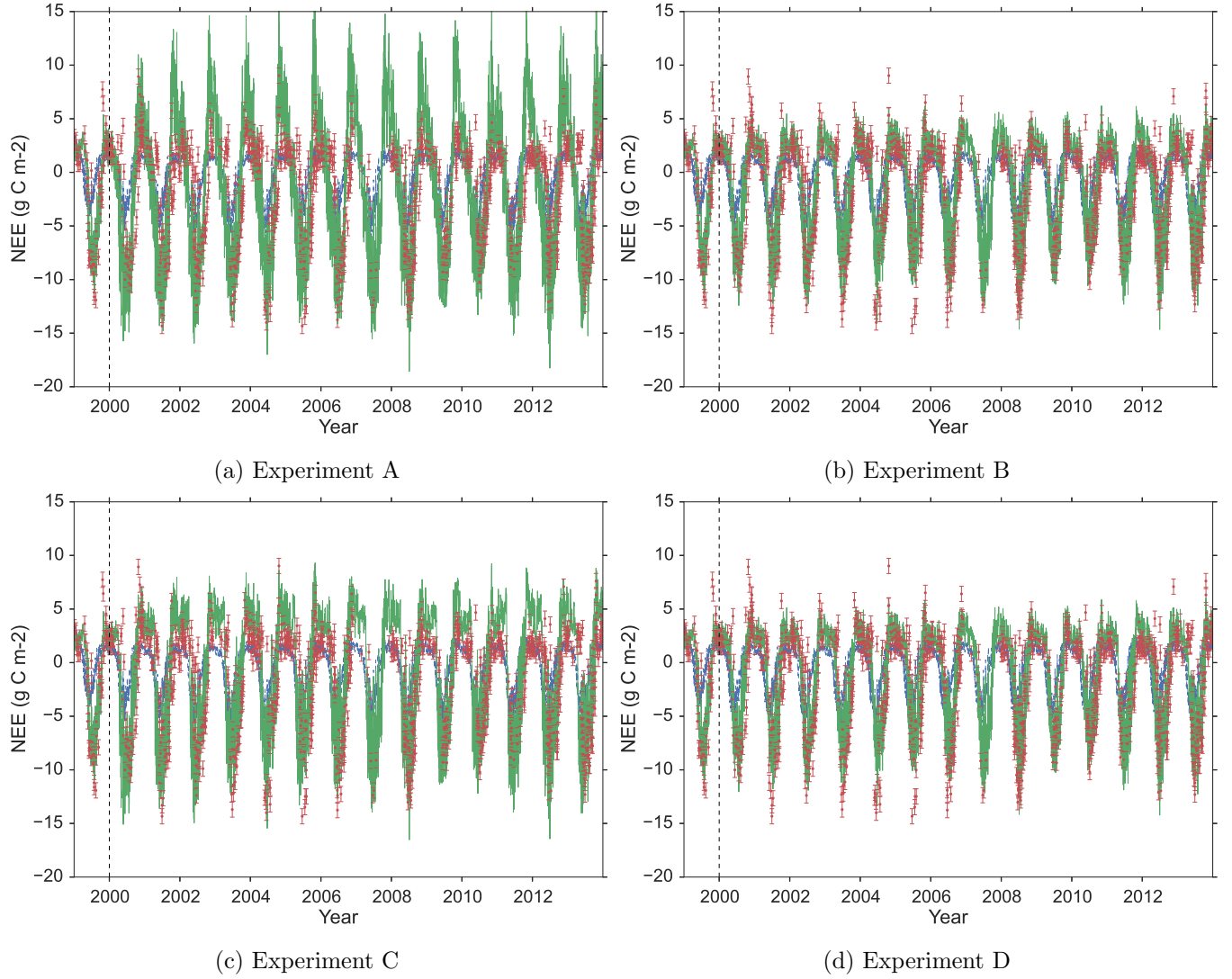


Figure 2: CVT: One year assimilation and fourteen year forecast of Alice Holt NEE with DALEC2, blue dotted line: background model trajectory, green line: analysis and forecast after assimilation, red dots: observations from Alice Holt flux site with error bars.

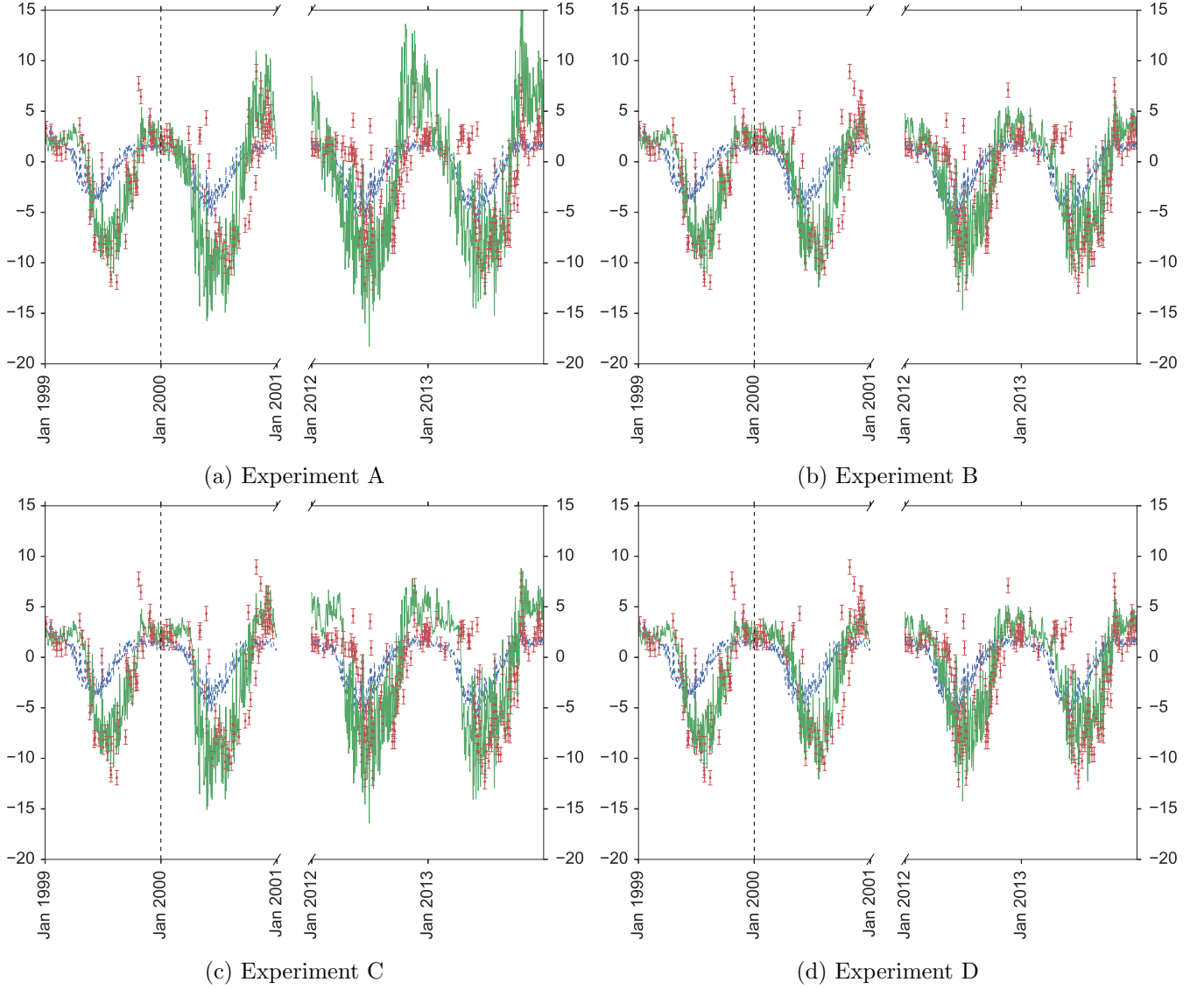
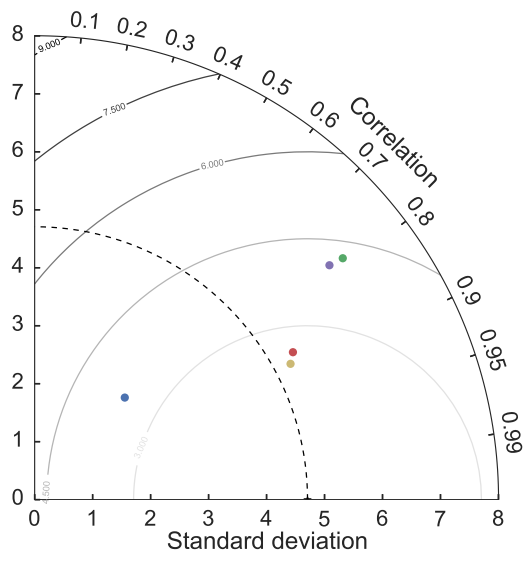
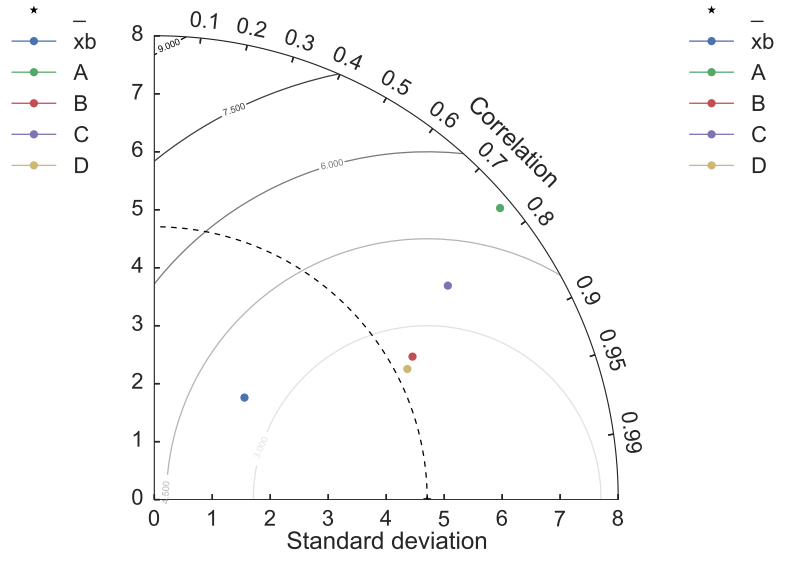


Figure 3: Broken CVT: One year assimilation and fourteen year forecast of Alice Holt NEE with DALEC2, blue dotted line: background model trajectory, green line: analysis and forecast after assimilation, red dots: observations from Alice Holt flux site with error bars.



(a) Taylor diagram



(b) CVT Taylor diagram

Figure 4: Taylor diagrams displaying statistical comparison of the four experiment and background forecast (2000-2014) results with observations of NEE (gCm^{-2}).

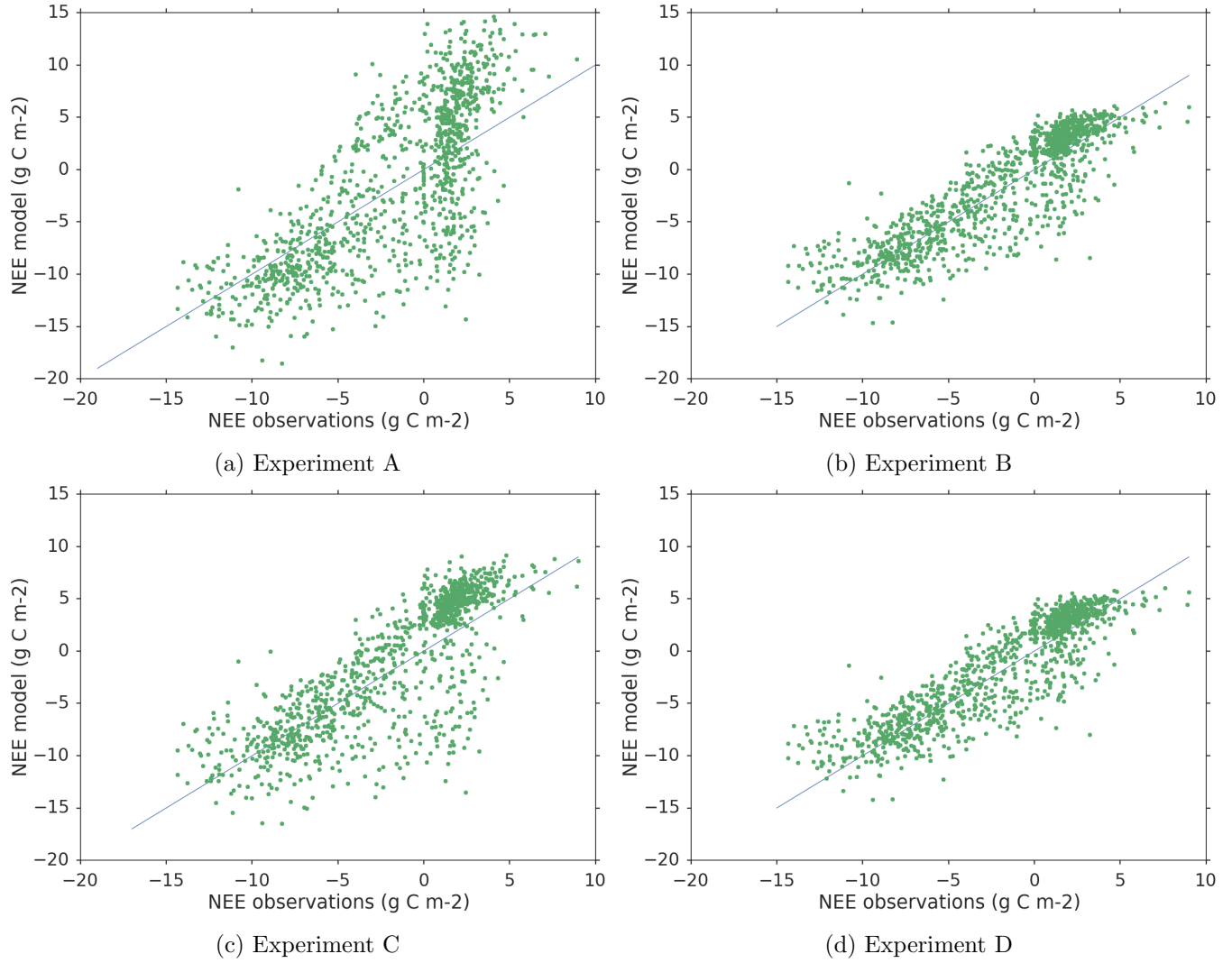


Figure 5: CVT Forecast scatter plot of modelled NEE vs. observations for 2000-2014 (green dots). Blue line represents the 1-1 line.

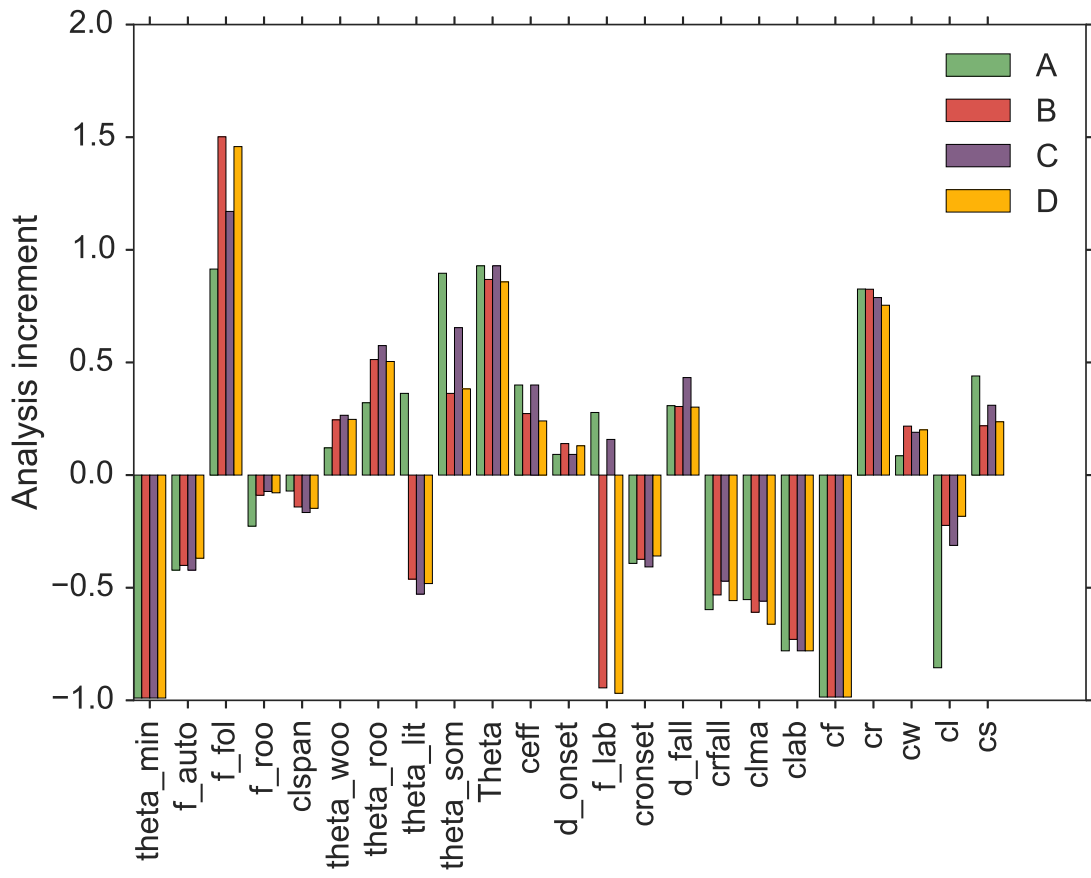


Figure 6: CVT: Analysis increment for the four experiments.