NIST Decision Tree Report

Summary

Include	Laboratory	Result	Uncertainty	DegreesOfFreedom
TRUE	IRMM	34.30	1.03	60
TRUE	KRISS	32.90	0.69	4
TRUE	NARL	34.53	0.83	18
TRUE	NIST	32.42	0.29	2
FALSE	NMIJ	31.90	0.40	13
TRUE	NRC	35.80	0.38	60

Date: 2023-11-07
Version Number: 1.0.4
Type of DoE: Degrees of Equivalence Recognizing Dark Uncertainty
Random Seed: 763
Selected Procedure: Adaptive Weighted Average
Consensus estimate: 33.97
Standard uncertainty: 0.8639
Standard uncertainty (using parametric bootstrap): 0.854
95% coverage interval: (32.28, 35.67)
95% coverage interval (using parametric bootstrap): (32.22, 35.73)
Dark uncertainty (tau): 1.81

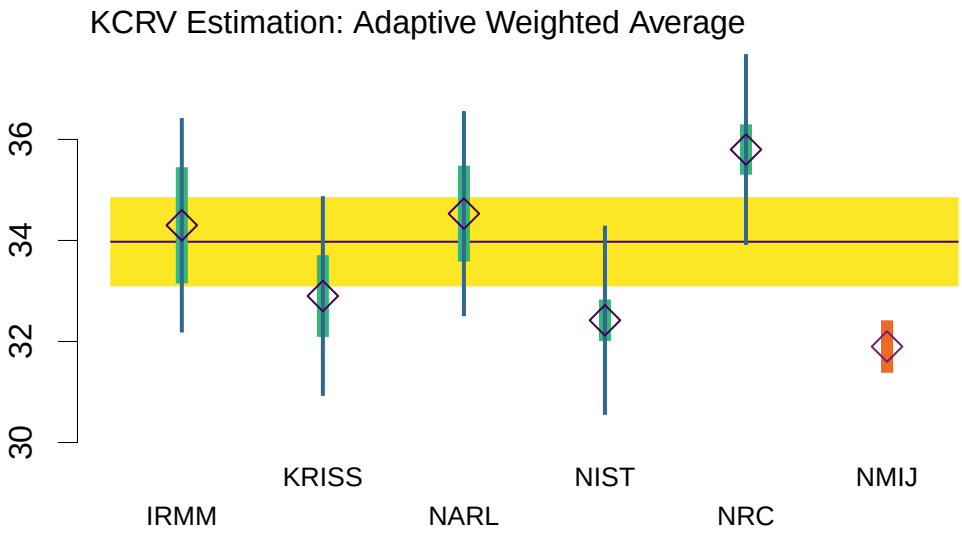
Decision Tree Hypothesis test results

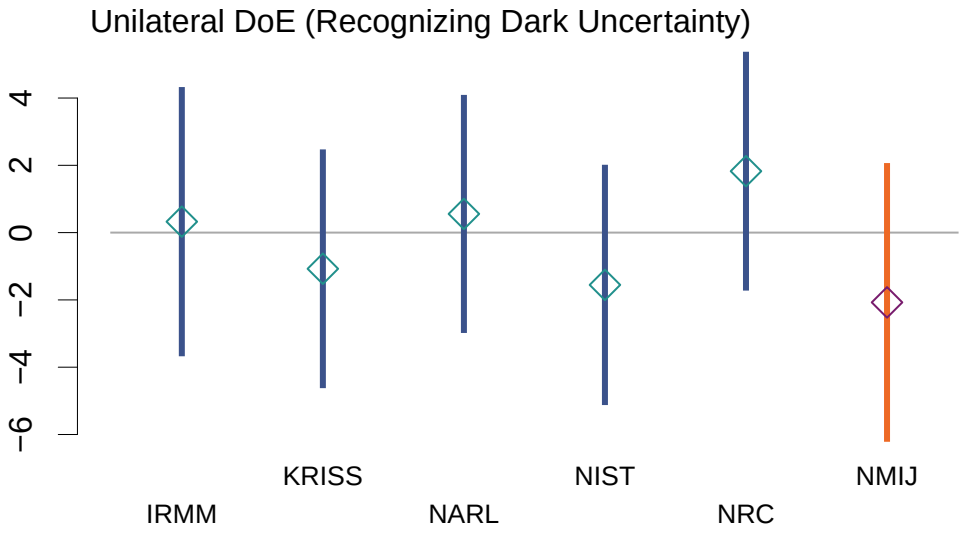
Cochran's test for Homogeneity:
p-value: $p < 0.001$
$Q = 52.69$ (Reference Distribution: Chi-Square with 4 Degrees of Freedom)
tau est. = 1.81
tau/median(x) = 0.05276
tau/median(u) = 2.623

Shapiro-Wilk test for Normality: $p = 0.8414$

Miao-Gel-Gastwirth test of Symmetry: $p = 0.3708$

Plots


KCRV Estimation: Adaptive Weighted Average
36
34
32
30
KRISS
NIST
NMIJ
IRMM
NARL
NRC


Unilateral DoE (Recognizing Dark Uncertainty)
4
2
0
−2
−4
−6
KRISS
NIST
NMIJ
IRMM
NARL
NRC

DoE Table

	Lab	DoE.x	DoE.U95	DoE.Lwr	DoE.Upr
IRMM	IRMM	0.3256	3.912	-3.586	4.237
KRISS	KRISS	-1.0740	3.458	-4.533	2.384
NARL	NARL	0.5556	3.448	-2.893	4.004
NIST	NIST	-1.5540	3.481	-5.036	1.927
NRC	NRC	1.8260	3.460	-1.634	5.286
NMIJ	NMIJ	-2.0740	4.053	-6.127	1.978

Lab Uncertainties Table

lab	x	u	nu	ut
IRMM	34.30	1.03	60	2.082
KRISS	32.90	0.69	4	1.937
NARL	34.53	0.83	18	1.991
NIST	32.42	0.29	2	1.833
NMIJ	31.90	0.40	13	1.853
NRC	35.80	0.38	60	1.849

lab	D	uDR	UDR	LwrR	UprR	uDI	UDI	LwrI	UprI
IRMM	0.3256	1.967	3.912	-3.586	4.237	0.9745	1.8390	-1.5140	2.1650
KRISS	-1.0740	1.682	3.458	-4.533	2.384	0.6289	1.2010	-2.2750	0.1263
NARL	0.5556	1.699	3.448	-2.893	4.004	0.7832	1.5100	-0.9549	2.0660
NIST	-1.5540	1.624	3.481	-5.036	1.927	0.2840	0.5967	-2.1510	-0.9577
NMIJ	-2.0740	2.068	4.053	-6.127	1.978	0.4721	0.9253	-3.0000	-1.1490
NRC	1.8260	1.612	3.460	-1.634	5.286	0.3347	0.7050	1.1210	2.5310

MCMC Sampler Diagnostics Table (if applicable)

If one of the Bayesian models is run (Hierarchical Gauss-Gauss, Hierarchical Laplace-Gauss, or Hierarchical Skew-Student-t), then diagnostics for the MCMC sampler will be given below. As a general recommendation, if any of the R-hat values are greater than 1.05, then the sampler may not have reached equilibrium, and the "Total Number of MCMC Steps" should be increased, and the run repeated. The "Number of MCMC Warm-Up Steps" should be about half of the "Total Number of MCMC Steps." The "Effective Sample Size" (n.eff) is approximately the size of the MCMC sample that the results are based on.