

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
TRUE	NMIJ	31.90	0.40	13
TRUE	NRC	35.80	0.38	60

Date: 2023-06-27

Version Number: 1.0.2

Type of DoE: Degrees of Equivalence Recognizing Dark Uncertainty

Random Seed: 366

Selected Procedure: Adaptive Weighted Average

Consensus estimate: 33.6

Standard uncertainty: 0.745

Standard uncertainty (using parametric bootstrap): 0.7753

95% coverage interval: (32.14, 35.06)

95% coverage interval (using parametric bootstrap): (31.92, 35.28)

Dark uncertainty (tau): 1.711

Decision Tree Hypothesis test results

Cochran's test for Homogeneity:

p-value: $p < 0.001$

$Q = 68.22$ (Reference Distribution: Chi-Square with 5 Degrees of Freedom)

tau est. = 1.711

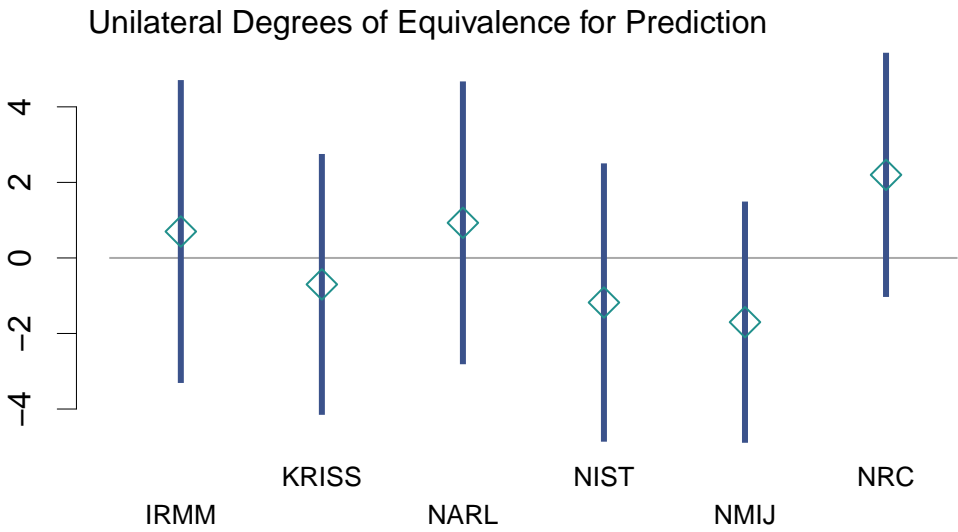
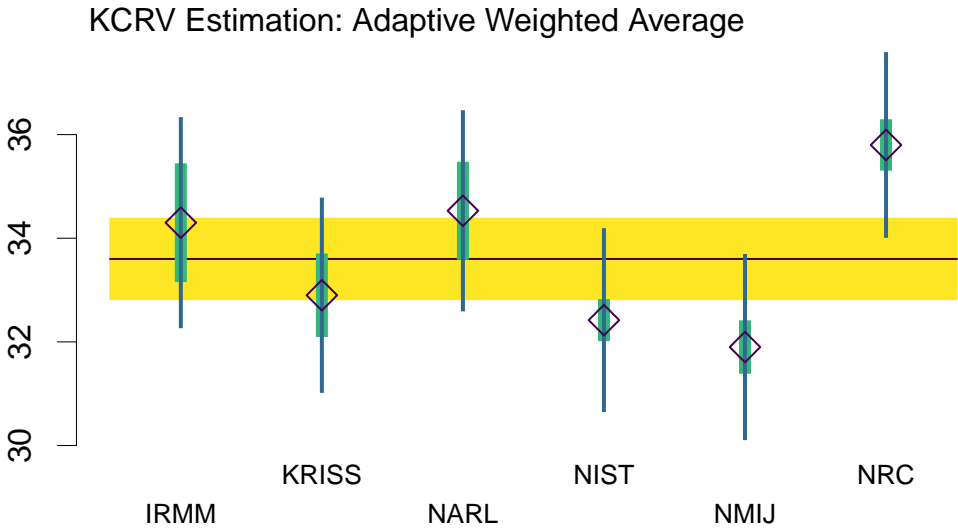
tau/median(x) = 0.05093

tau/median(u) = 3.14

Shapiro-Wilk test for Normality: $p = 0.5301$

Miao-Gel-Gastwirth test of Symmetry: $p = 0.9394$

Plots



DoE Table

	Lab	DoE.x	DoE.U95	DoE.Lwr	DoE.Upr
IRMM	IRMM	0.6996	3.930	-3.2300	4.629
KRISS	KRISS	-0.7004	3.374	-4.0740	2.673
NARL	NARL	0.9296	3.664	-2.7350	4.594
NIST	NIST	-1.1800	3.604	-4.7850	2.424
NMIJ	NMIJ	-1.7000	3.113	-4.8140	1.413
NRC	NRC	2.2000	3.153	-0.9537	5.353

Lab Uncertainties Table

lab	x	u	nu	ut
IRMM	34.30	1.03	60	1.9975
KRISS	32.90	0.69	4	1.8453
NARL	34.53	0.83	18	1.9021
NIST	32.42	0.29	2	1.7358
NMIJ	31.90	0.40	13	1.7575
NRC	35.80	0.38	60	1.7531

lab	D	uDR	UDR	LwrR	UprR	uDI	UDI	LwrI	UprI
IRMM	0.6996	1.8497	3.7074	-3.0079	4.4070	1.2908	2.5731	-1.8736	3.2727
KRISS	-0.7004	1.7127	3.3806	-4.0810	2.6802	1.0178	2.0204	-2.7209	1.3200
NARL	0.9296	1.7454	3.5373	-2.6077	4.4669	1.1412	2.2213	-1.2917	3.1508
NIST	-1.1804	1.6163	3.3628	-4.5432	2.1823	0.7956	1.6837	-2.8641	0.5032
NMIJ	-1.7004	1.6118	3.3993	-5.0998	1.6989	0.8708	1.7622	-3.4626	0.0618
NRC	2.1996	1.4989	3.0822	-0.8826	5.2817	0.8318	1.6816	0.5179	3.8812

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.