1 Nominal correlations.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	Sys1	Sys2	Sys3
X1	172.50 ± 0.89	5.28	4.71	5.54	5.28	0.43	0.35	0.69	0
X2	172.35 ± 0.23	75.70	71.47	78.73	75.70	0.16	0.12	0.10	0.04
X3	172.80 ± 0.43	19.02	19.77	17.41	19.02	0.19	0.24	0.28	0.12
Correlations	—	—	4.05	—	—	—	—	—	—
BLUE x	172.44 ± 0.19	100.00	100.00	101.68	100.00	0.13	0.15	-nan	0.01

Table 1: BLUE of the combination (χ^2/ndof= 0.85/2). For each input measurement i the following are listed: the central value weight CVW$_i$ or λ_i, the intrinsic information weight IIW$_i$, the marginal information weight MIW$_i$, the relative importance RI$_i$. The intrinsic information weight IIW$_{\text{corr}}$ of correlations is also shown on a separate row.

	X1	X2	X3
X1	0.78	−0.03	0.08
X2	−0.03	0.05	∼0
X3	0.08	∼0	0.19

Table 2: Full input covariance between measurements (summed over error sources).

	X1	X2	X3
X1	0.18	0	0
X2	0	0.03	0
X3	0	0	0.04

Table 3: Partial input covariance between measurements. Error source #0: Stat.

	X1	X2	X3
X1	0.12	0.04	0.08
X2	0.04	0.01	0.03
X3	0.08	0.03	0.06

Table 4: Partial input covariance between measurements. Error source #1: Sys1.

	X1	X2	X3
X1	0.48	−0.07	0
X2	−0.07	0.01	−0.03
X3	0	−0.03	0.08

Table 5: Partial input covariance between measurements. Error source #2: Sys2.

	X1	X2	X3
X1	0	0	0
X2	0	∼0	∼0
X3	0	∼0	0.01

Table 6: Partial input covariance between measurements. Error source #3: Sys3.

2 Modified correlations.

2.1 Zero correlations.

Measurements		CVW/%	IIW/%	MIW/%	RI/%	Stat	Sys1	Sys2	Sys3
X1	172.50 ± 0.89	4.91	4.91	4.91	4.91	0.43	0.35	0.69	0
X2	172.35 ± 0.23	74.49	74.49	74.49	74.49	0.16	0.12	0.10	0.04
X3	172.80 ± 0.43	20.61	20.61	20.61	20.61	0.19	0.24	0.28	0.12
Correlations	—	—	0	—	—	—	—	—	—
BLUE x	172.45 ± 0.20	100.00	100.00	100.00	100.00	0.13	0.10	0.10	0.04

Table 7: BLUE of the combination (χ^2/ndof= 0.85/2). For each input measurement i the following are listed: the central value weight CVW_i or λ_i, the intrinsic information weight IIW_i , the marginal information weight MIW_i, the relative importance RI_i. The intrinsic information weight $\mathrm{IIW}_{\mathrm{corr}}$ of correlations is also shown on a separate row.

	X1	X2	X3
X1	0.78	0	0
X2	0	0.05	0
X3	0	0	0.19

Table 8: Full input covariance between measurements (summed over error sources).

	X1	X2	X3
X1	0.18	0	0
X2	0	0.03	0
X3	0	0	0.04

Table 9: Partial input covariance between measurements. Error source #0: Stat.

	X1	X2	X3
X1	0.12	0	0
X2	0	0.01	0
X3	0	0	0.06

Table 10: Partial input covariance between measurements. Error source #1: Sys1.

	X1	X2	X3
X1	0.48	0	0
X2	0	0.01	0
X3	0	0	0.08

Table 11: Partial input covariance between measurements. Error source #2: Sys2.

	X1	X2	X3
X1	0	0	0
X2	0	~0	0
X3	0	0	0.01

Table 12: Partial input covariance between measurements. Error source #3: Sys3.

Appendix A1. Input data.

```
#=============================================================================
#==== BlueFin input data file ================================================
#=============================================================================

# The file is expected to have the following format.
# Blank lines and lines with only empty spaces are ignored.
# Lines starting by '#' are reserved for comments and are ignored.
# Data lines are composed of fields separated by one or more empty spaces.
# Fields cannot contain empty spaces, with the exception of the title line.

# The next line must have 2 fields: 'TITLE' and the title of the
# BlueFin combination, which must be enclosed within double quotes
# and may contain only alphanumeric characters or spaces or hyphens.
TITLE "2018-06 Discussion with A Rej and R Nisius - example with flag 1"

# The next line must have 2 fields: 'NOBS' and the number of observables.
NOBS 1

# The next line must have 2 fields: 'NMEA' and the number of measurements.
NMEA 3

# The next line must have 2 fields: 'NERR' and the number of error sources.
NERR 4

# The next NERR+3 lines must have NMEA+1 fields in this format:
# - in the 1st line: 'MEANAME' followed by NMEA distinct measurement names
#   (measurement names may contain only alphanumeric characters or spaces);
# - in the 2nd line: 'OBSNAME' followed by the NMEA names (with NOBS distinct
#   values) of the observables measured by the corresponding measurements
#   (observable names may contain only alphanumeric characters or spaces
#   and should preferably be at most 3 characters long);
# - in the 3rd line: 'MEAVAL' followed by the NMEA measured central values;
# - in each of the last NERR lines: the error source name followed by the
#   NMEA partial errors for each measurement due to the given error source
#   (error source names may contain only alphanumeric characters or spaces).
MEANAME     X1       X2       X3
OBSNAME      x        x        x
MEAVAL  172.50   172.35   172.80
Stat      0.43     0.16     0.19
Sys1      0.35     0.12     0.24
Sys2      0.69     0.10     0.28
Sys3      0.00     0.04     0.12

# The next NMEA*(NMEA-1)/2+1 rows must have NERR+2 fields in this format:
# - in the 1st line: 'CMEA1' 'CMEA2' (correlations between 2 measurements)
#   followed by the NERR error source names in the same order used above;
# - in each of the NMEA*(NMEA-1)/2 last lines: the names of two distinct
#   measurements followed by the NERR correlations between the partial
#   errors on the two measurements due to corresponding error source.
```

```
#   Measurements must appear in the same order listed above.
CMEA1  CMEA2  Stat  Sys1  Sys2  Sys3
X1     X2        0     1    -1    -1
X1     X3        0     1     0     0
X2     X3        0     1    -1    -1
```

Input data file: `misc201806RNflag1.bfin`.