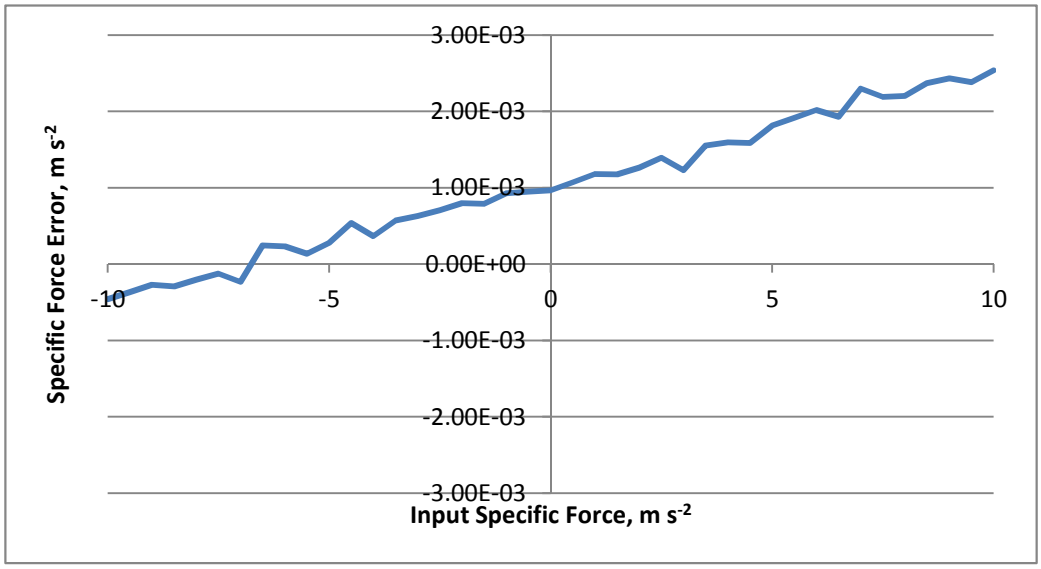
EXAMPLE 4.1
Accelerometer error

INPUTS:

Bias	b_a =	1.00E-03	$m\,s^{-2}$
Scale-factor error	s_a =	1.50E-04	
Noise standard deviation	$\sigma(w_a)$ =	1.00E-04	$m\,s^{-2}$

From (4.16), $\tilde{f}^b_{ib,x} = b_{a,x} + (1 + s_a) f^b_{ib,x} + w_{a,x}$ (Neglecting the effects of specific force in the x and y directions)

From (4.18) $\delta f^b_{ib,x} = \tilde{f}^b_{ib,x} - f^b_{ib,x}$



$f^b_{ib,x}$, $m\,s^{-2}$	Random Numbers	$w_{a,x}$, $m\,s^{-2}$	$\tilde{f}^b_{ib,x}$, $m\,s^{-2}$	$\delta f^b_{ib,x}$, $m\,s^{-2}$
-10	0.397742675	3.98E-05	-10.0005	-4.6023E-04
-9.5	0.558802485	5.59E-05	-9.5004	-3.6912E-04
-9	0.770081799	7.70E-05	-9.0003	-2.7299E-04
-8.5	-0.194965271	-1.95E-05	-8.5003	-2.9450E-04
-8	-0.046517708	-4.65E-06	-8.0002	-2.0465E-04
-7.5	-0.000629954	-6.30E-08	-7.5001	-1.2506E-04
-7	-1.824940824	-1.82E-04	-7.0002	-2.3249E-04
-6.5	2.20461415	2.20E-04	-6.4998	2.4546E-04
-6	1.314101963	1.31E-04	-5.9998	2.3141E-04
-5.5	-0.385305185	-3.85E-05	-5.4999	1.3647E-04
-5	0.250276604	2.50E-05	-4.9997	2.7503E-04
-4.5	2.106908507	2.11E-04	-4.4995	5.3569E-04
-4	-0.342451965	-3.42E-05	-3.9996	3.6575E-04
-3.5	0.952660688	9.53E-05	-3.4994	5.7027E-04
-3	0.803109111	8.03E-05	-2.9994	6.3031E-04
-2.5	0.817147144	8.17E-05	-2.4993	7.0671E-04
-2	0.969075871	9.69E-05	-1.9992	7.9691E-04
-1.5	0.114369628	1.14E-05	-1.4992	7.8644E-04
-1	0.785133294	7.85E-05	-0.9991	9.2851E-04
-0.5	0.216555609	2.17E-05	-0.4991	9.4666E-04

$f^b_{ib,x}$, m s^{-2}	Random Numbers	$w_{a,x}$, m s^{-2}	$\widetilde{f}^b_{ib,x}$, m s^{-2}	$\delta f^b_{ib,x}$, m s^{-2}
0	-0.355914306	-3.56E-05	0.0010	9.6441E-04
0.5	-0.049967677	-5.00E-06	0.5011	1.0700E-03
1	0.267134159	2.67E-05	1.0012	1.1767E-03
1.5	-0.503027161	-5.03E-05	1.5012	1.1747E-03
2	-0.371066725	-3.71E-05	2.0013	1.2629E-03
2.5	0.166377355	1.66E-05	2.5014	1.3916E-03
3	-2.194273588	-2.19E-04	3.0012	1.2306E-03
3.5	0.252928631	2.53E-05	3.5016	1.5503E-03
4	-0.062124905	-6.21E-06	4.0016	1.5938E-03
4.5	-0.884719898	-8.85E-05	4.5016	1.5865E-03
5	0.60453209	6.05E-05	5.0018	1.8105E-03
5.5	0.885555689	8.86E-05	5.5019	1.9136E-03
6	1.152044805	1.15E-04	6.0020	2.0152E-03
6.5	-0.454393885	-4.54E-05	6.5019	1.9296E-03
7	2.4942719	2.49E-04	7.0023	2.2994E-03
7.5	0.627552852	6.28E-05	7.5022	2.1878E-03
8	0.026627194	2.66E-06	8.0022	2.2027E-03
8.5	0.948479894	9.48E-05	8.5024	2.3698E-03
9	0.835796235	8.36E-05	9.0024	2.4336E-03
9.5	-0.426371668	-4.26E-05	9.5024	2.3824E-03
10	0.357750047	3.58E-05	10.0025	2.5358E-03