Force Transmission Test 2

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SDU

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150	S1	S 2	S3	Total
O	49.8	49.7	49.3	148.8
I B	48.4	49.8	48.3	146.5
I A	15.8	27.6	29.3	72.7

180	S1	S 2	S3	Total
O	59.9	60.5	60.2	180.6
I B	57.3	61.5	59.0	177.8
I A	20.0	34.7	36.7	91.4

210	S1	S 2	S3	Total
O	70.0	69.8	70.3	210.1
I B	67.3	71.2	69.4	207.9
I A	29.9	37.7	42.1	109.7

240	S1	S 2	S3	Total
O	80.3	80.1	80.3	240.7
I B	76.5	80.6	79.3	236.4
I A	39.8	38.1	45.3	123.2

270	S1	S 2	S3	Total
O	89.5	89.4	89.9	268.8
I B	84.7	89.9	90.6	265.2
I A	40.6	41.0	52.6	134.2

300	S1	S 2	S3	Total
O	99.2	100.0	100.1	299.3
I B	95.6	98.9	99.5	294.0
I A	48.8	44.7	54.2	147.7

330	S1	S 2	S3	Total
O	109.4	109.8	110.9	330.1
I B	105.3	113.6	109.3	328.2
I A	50.0	52.7	60.3	163.0

360	S1	S 2	S3	Total
O	119.8	120.7	119.6	360.1
I B	117.3	119.0	118.1	354.4
I A	54.0	52.9	63.1	170.0

390	S1	S 2	S3	Total
O	130.6	130.3	130.6	391.5
I B	128.2	127.4	128.1	383.7
I A	58.4	57.4	65.2	181.0

420	S1	S 2	S3	Total
O	140.3	140.6	139.7	420.6
I B	139.4	144.4	135.8	419.6
I A	59.1	62.7	70.3	192.1

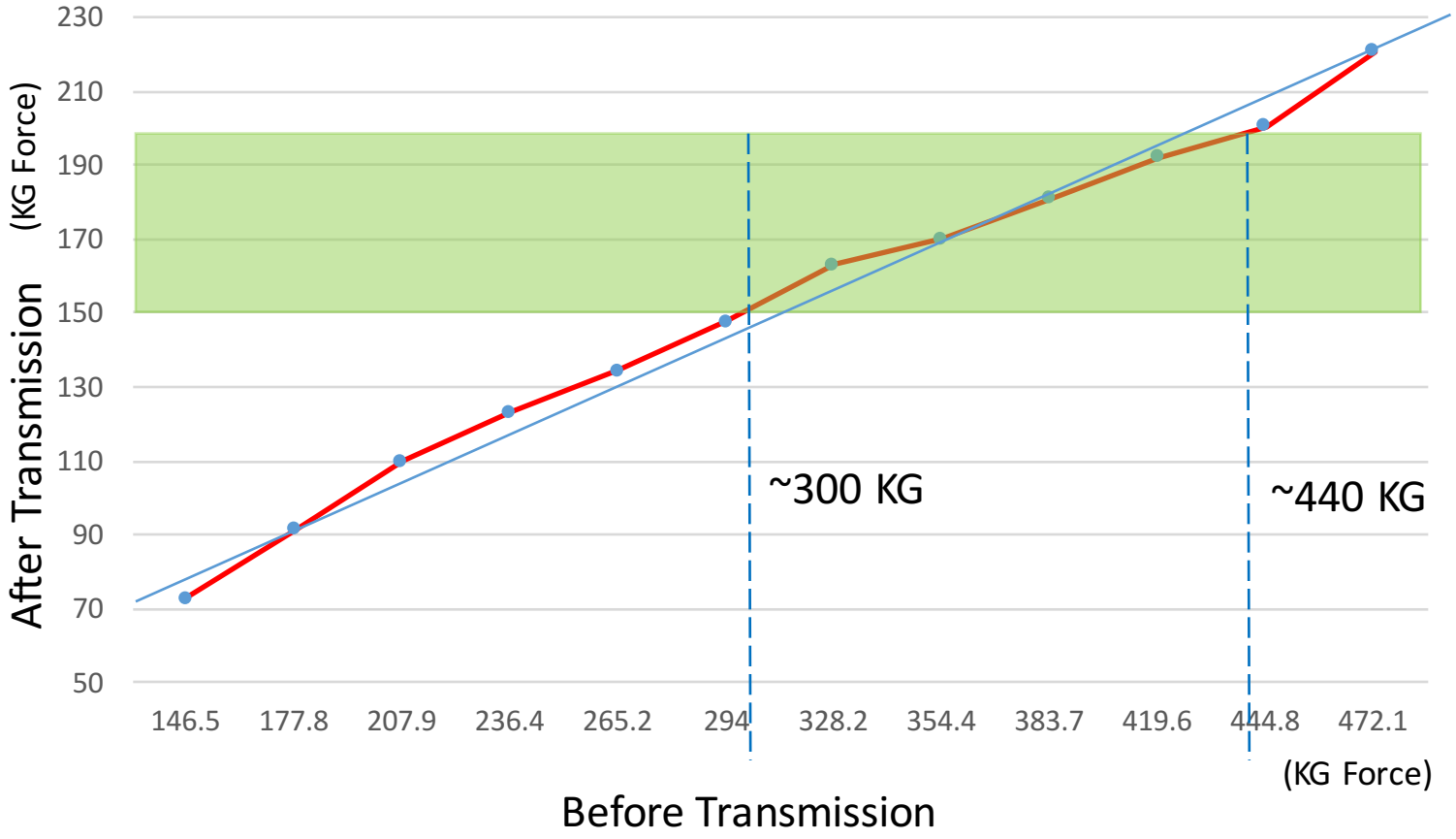
450	S1	S 2	S3	Total
O	149.1	149.1	150.2	448.4
I B	147.8	150.5	146.5	444.8
I A	70.6	63.6	66.2	200.4

480	S1	S 2	S3	Total
O	159.1	159.1	159.2	477.4
I B	156.9	162.8	152.4	472.1
I A	75.1	69.1	76.5	220.7

Test of Force Transmission

- The description of method can be found in "**SoLID EC Design Weekly Meeting Minutes**"
- The relationship between the force before and after transmission is almost proportional, the proportional coefficient is 2 ~ 2.3 (I didn't fit it).
- To transfer a total force of 150 ~ 200 KG, the pre-setting pressure should be 300 ~440 KG.

- The fluctuation of transferred force is big. (when to stop turning the nuts partly depend on hand feeling)
- It's good when we just want to transfer the force to a wide range

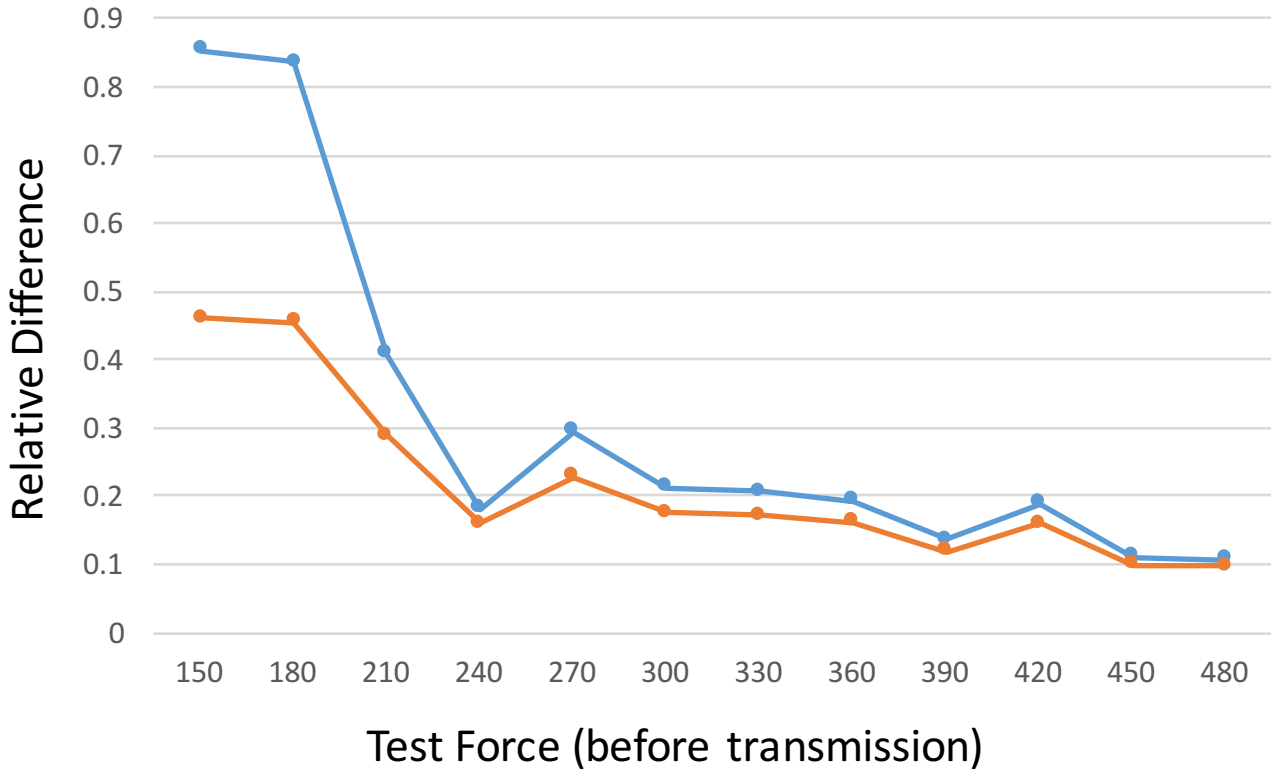


Test of Force Transmission

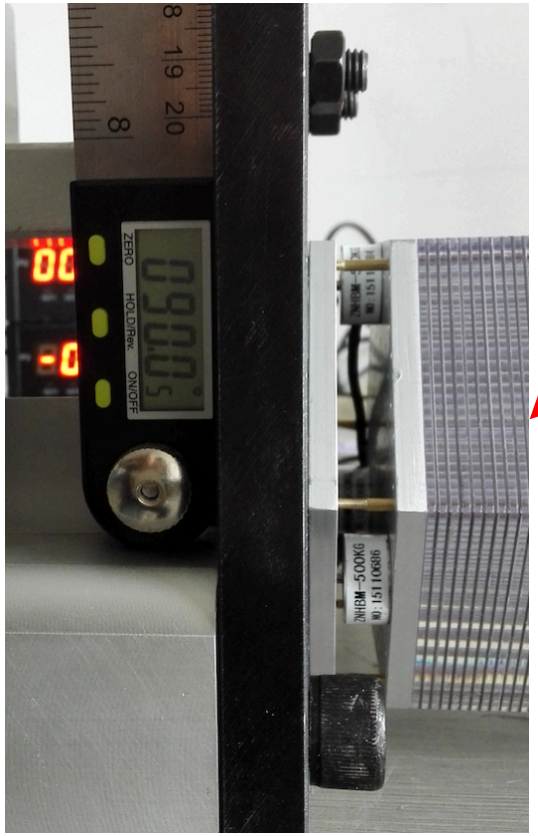
- The readings of 3 sensors are different with each other, the forces in rods are uneven. But the relative difference reduced when the transmitted force increases

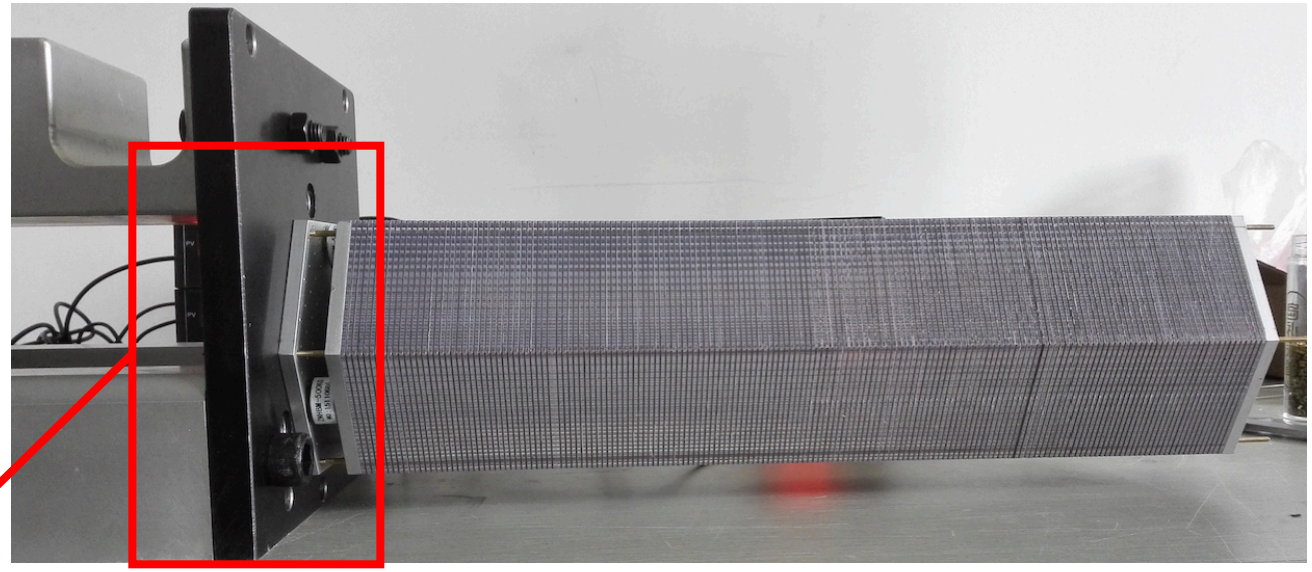
Blue Line: $\frac{\text{Max}(S1, S2, S3) - \text{Min}(S1, S2, S3)}{\text{Min}(S1, S2, S3)}$

Red Line: $\frac{\text{Max}(S1, S2, S3) - \text{Min}(S1, S2, S3)}{\text{Max}(S1, S2, S3)}$



Suspension Test





- The method of hanging a module and finding the baseline can be found in weekly minutes.
- The stand used to hang the module is perpendicular to the surface of table.
- The height of baseline is 12.746 cm, the height change to 12.466 cm when we remove the support plates. The difference is 2.8 mm!

Fiber shaping

- We insert fibers into the module stack this week.
- The end of fiber which is inserted into the module is plated by silver, but the plating layer is easily peeled. This design needs to be modified.
- The other ends of fibers are bundled together with a plastic gland, but the surface of the end is unpolished now……

Thanks!