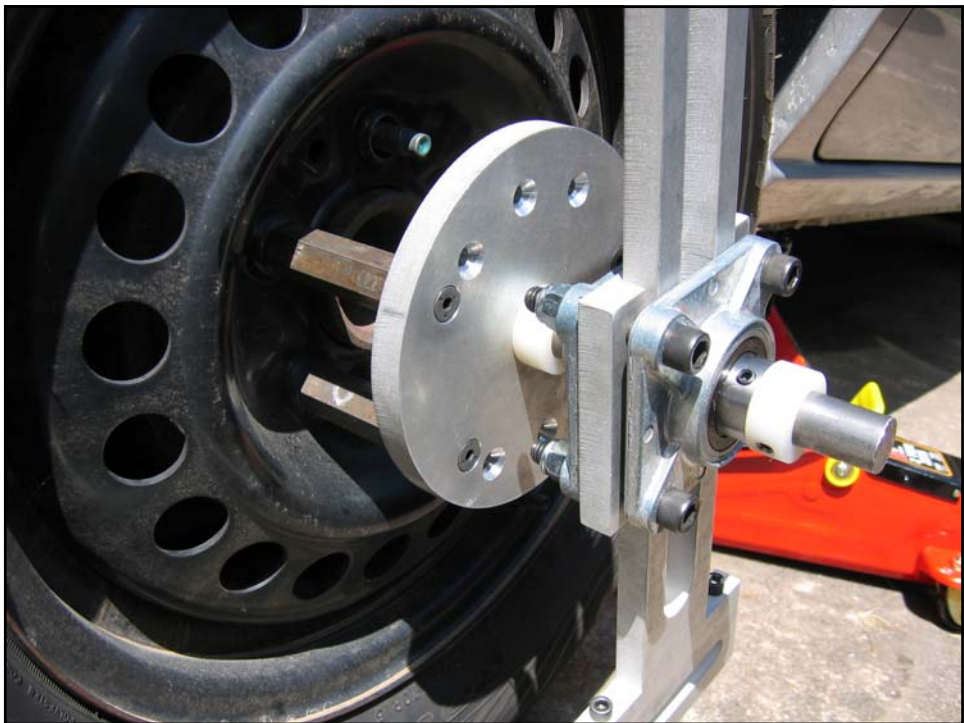
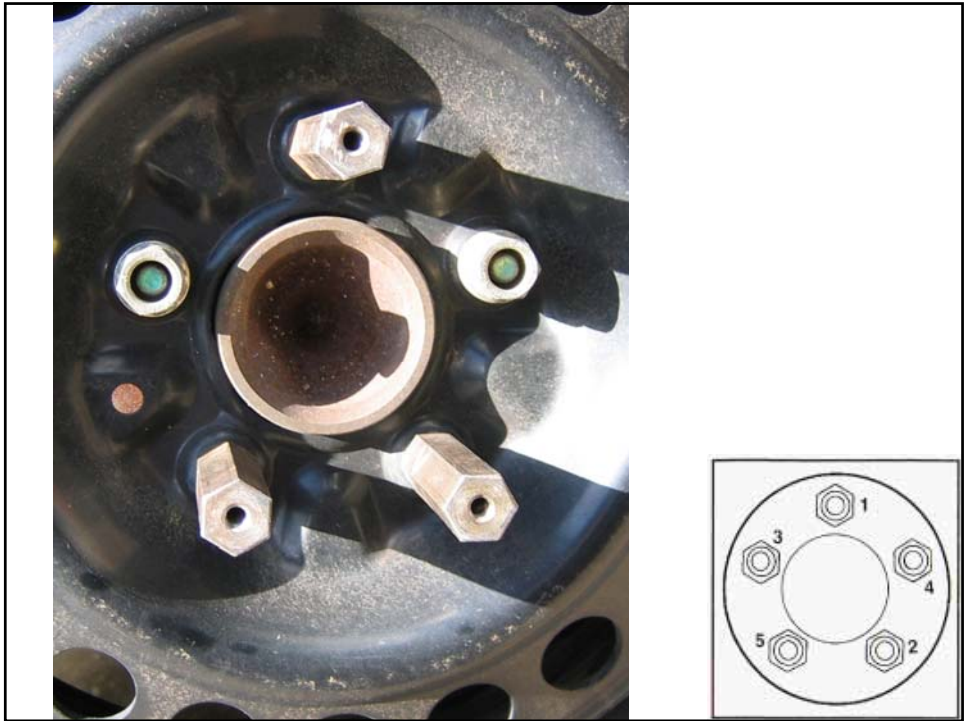


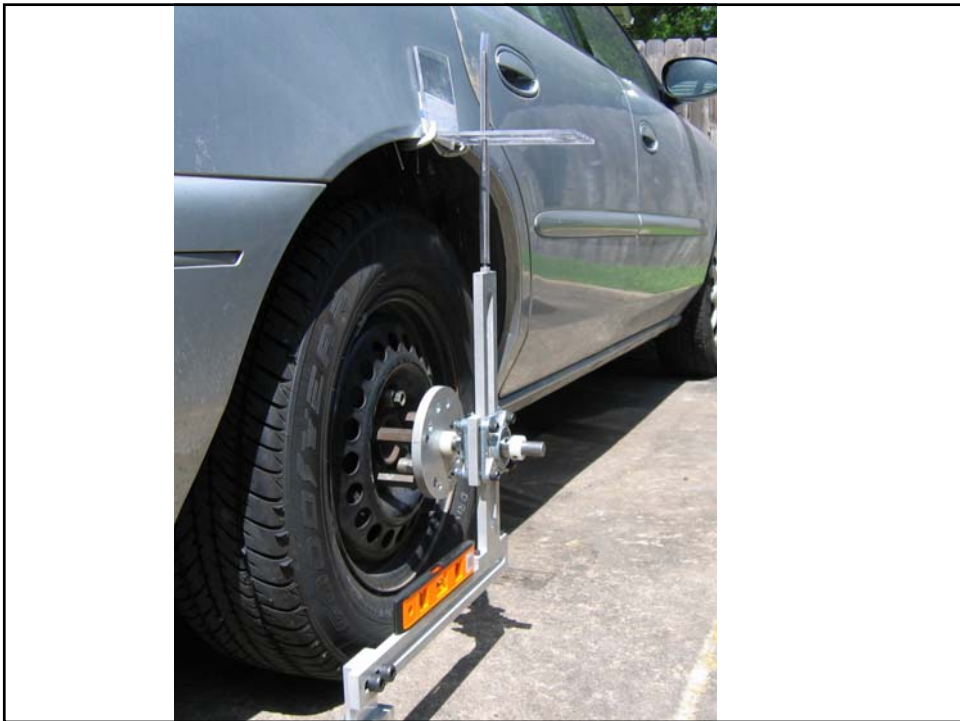
On-Board Sound Intensity



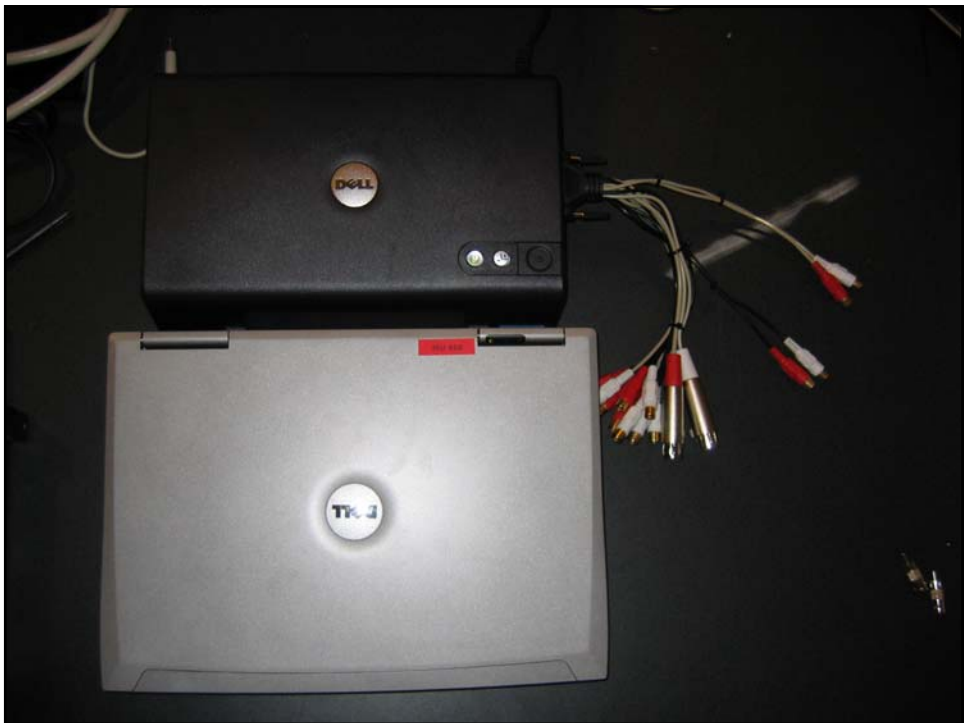
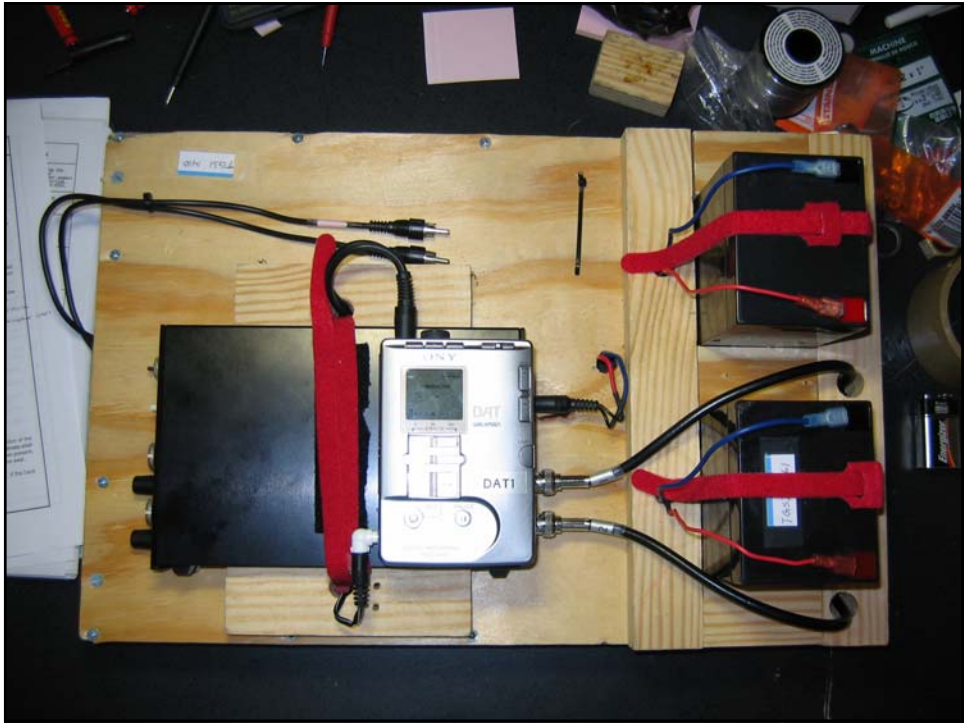
Robert Otto Rasmussen, Ph.D., P.E.
Eric Mun
George Chang, Ph.D., P.E.
Dennis Turner, P.E.



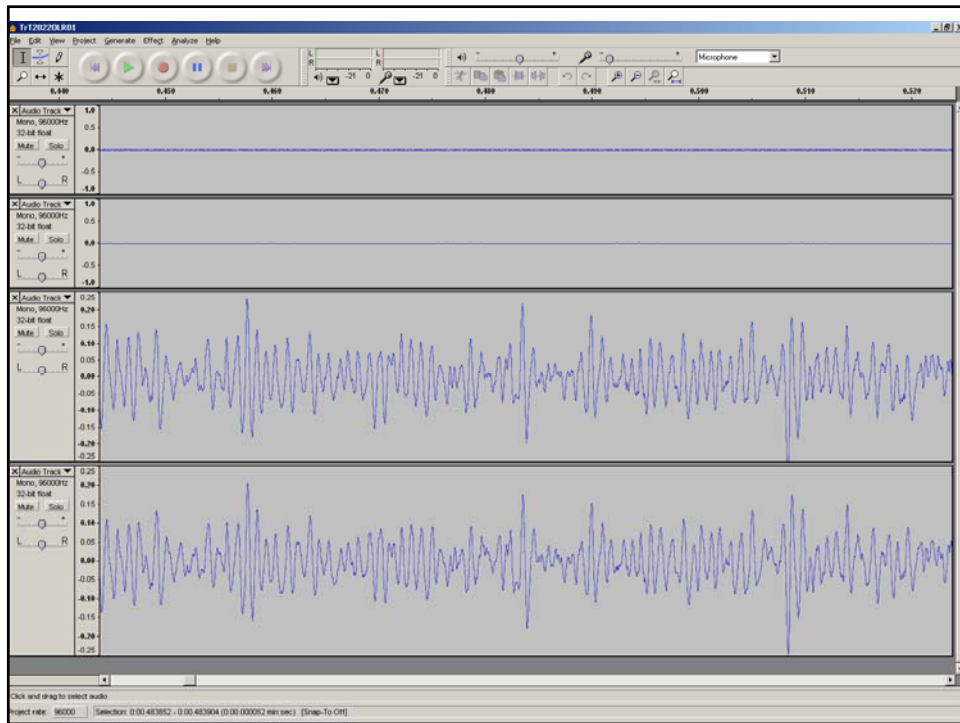
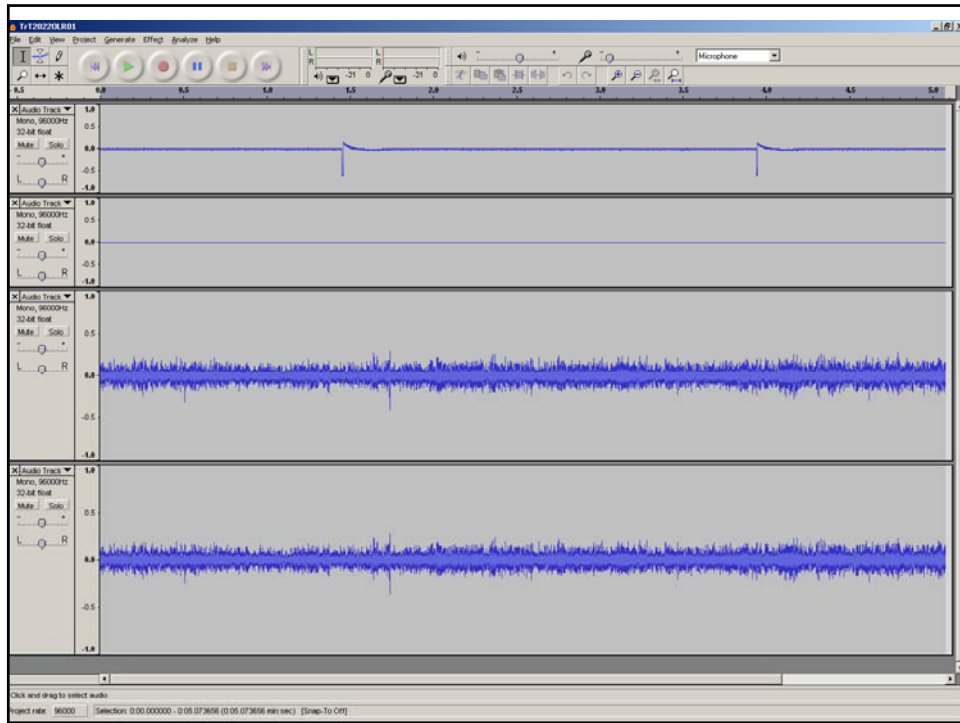


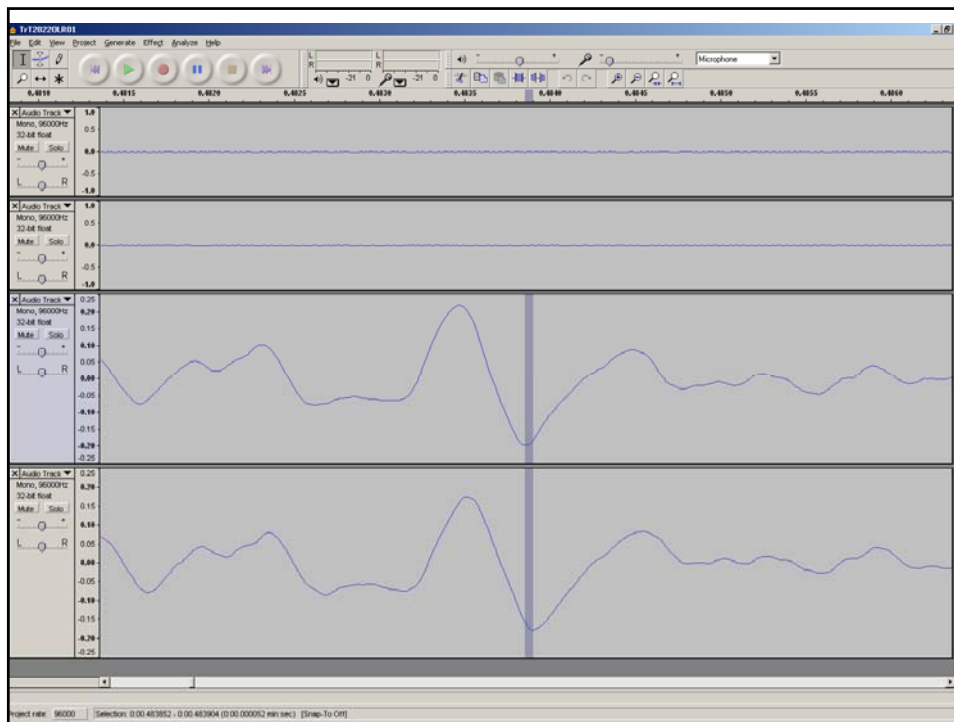












OBSI Data Processing

Step 1: Calibration tone scaling factors (Pa/scale).

Step 2: Locate “spikes” in data.

Step 3: Temporal domain – calculate SPL (of each channel) and SIL using time-averaging.

Step 4: Spectral domain – calculate SIL using FFT (cross-spectrum). Parse narrow-band energy into 1/N-octave bands. Sum 500-5000 Hz 1/3-Oct bands for Total SIL.

Step 5: Compare repeat runs and select best leading and trailing edge.

Step 6: Report 7-ft. averages and 44-ft. (energy-based) averages.

OBSI Data Processing

Microsoft Excel - OBSIProc25 - 205 1 AM Loc 060427.xls

File	FilePath	BeginDate	EndSample	BeginChan	CenterChan	EndChan	XSpec20(Hz/m)	XSpec20(dB)	XSpec3000(Hz)	XSpec3000(dB)	100	125	160	200	250	315	400	500	630	800	1000	1250	
1	205021.DCR.RR	1	1842	0	3.5	7	1.87E-02	102.73	1.53E-02	101.96	92.79	95.25	93.79	87.61	80.78	85.09	82.32	87.02	97.65	92.82			
2	205021.DCR.RR	1	1080	0	4.5	9	2.08E-02	114.26	1.66E-02	102.2	92.91	95.88	92.52	91.71	86.52	83.72	83.87	82.37	87.38	92.42	91.44		
3	205021.DCR.RR	1	2185	0	5.5	11	2.64E-02	124.21	1.96E-02	101.93	95.26	94.22	79.99	93.43	87.03	84.43	86.69	96.87	90.02	91.68			
4	205021.DCR.RR	1	3277	10919	3	6.5	10	1.97E-02	102.96	1.48E-02	101.69	92.28	93.55	86.91	83.7	82.41	89.21	96.96	97.69	92.08			
5	205021.DCR.RR	1	4366	12009	4	7.5	11	2.01E-02	103.03	1.66E-02	102.18												
6	205021.DCR.RR	1	5460	13101	5	9.5	12	2.43E-02	103.65	1.77E-02	102.47												
7	205021.DCR.RR	1	6552	14193	6	11.5	13	2.24E-02	103.91	1.66E-02	102.26												
8	205021.DCR.RR	1	7644	15285	7	13.5	14	1.82E-02	102.9	1.59E-02	102.01												
9	205021.DCR.RR	1	8736	16377	8	15.5	15	1.56E-02	101.94	1.46E-02	101.62												
10	205021.DCR.RR	1	9827	17469	9	17.5	16	1.25E-02	100.96	1.34E-02	101.28												
11	205021.DCR.RR	1	10919	18560	10	19.5	17	1.02E-02	100.07	1.44E-02	101.69	85.65											
12	205021.DCR.RR	1	12011	19652	11	21.5	18	1.11E-02	100.46	1.44E-02	101.67												
13	205021.DCR.RR	1	13102	20743	12	23.5	19	1.57E-02	101.95	1.62E-02	102.08												
14	205021.DCR.RR	1	14194	21835	13	25.5	20	2.18E-02	103.26	1.78E-02	102.46												
15	205021.DCR.RR	1	15286	22927	14	27.5	21	2.49E-02	103.94	1.75E-02	102.44	88.67	81.13	95.64	88.54	89.24	89.91	87.55	87.93	90.3	94.17		
16	205021.DCR.RR	1	16378	24019	15	29.5	22	2.37E-02	103.76	1.53E-02	101.84	88.72											
17	205021.DCR.RR	1	17469	25110	16	31.5	23	1.82E-02	102.83	1.28E-02	101.1	88.24											
18	205021.DCR.RR	1	18561	26202	17	33.5	24	1.49E-02	101.65	1.21E-02	100.62	91.17											
19	205021.DCR.RR	1	19653	27294	18	35.5	25	1.81E-02	102.86	1.68E-02	102.04	93.29											
20	205021.DCR.RR	1	20745	28386	19	37.5	26	2.81E-02	104.49	2.27E-02	103.56	93.11											
21	205021.DCR.RR	1	21836	29477	20	39.5	27	3.07E-02	104.87	2.38E-02	103.78	92.45	85.74	94.03	94.88	94.95	93.86	90.13	91.10	100.88	98.52	93.04	
22	205021.DCR.RR	1	22928	30569	21	41.5	28	2.25E-02	103.61	1.88E-02	102.56	89.63	89.14	91.86	90.2	93.42	94.8	78.1	87.07	89.32	88.92	88.89	92.82
23	205021.DCR.RR	1	24020	31661	22	43.5	29	1.35E-02	101.31	1.30E-02	101.13	82.38	82.28	77.13	80.77	87.24	83.87	88.5	86.96	84.84	83.07		
24	205021.DCR.RR	1	25112	32753	23	45.5	30	1.62E-02	101.93	1.34E-02	101.26												
25	205021.DCR.RR	1	26204	33845	24	47.5	31	2.01E-02	102.64	1.53E-02	101.66												
26	205021.DCR.RR	1	27296	34937	25	49.5	32	2.18E-02	103.38	1.61E-02	101.8												
27	205021.DCR.RR	1	28388	36029	26	51.5	33	2.28E-02	103.6	1.64E-02	101.28												
28	205021.DCR.RR	1	29480	37121	27	53.5	34	2.59E-02	104.29	1.73E-02	101.69												
29	205021.DCR.RR	1	30572	38213	28	55.5	35	3.01E-02	105.04	1.82E-02	102.17												
30	205021.DCR.RR	1	31664	39305	29	57.5	36	1.77E-02	102.49	1.56E-02	101.92	85.66	90.19	79.82	81.09	79.29	89.32	85.76	80.68	84.28	88.58	93.79	
31	205021.DCR.RR	1	32756	40397	30	59.5	37	1.93E-02	103.23	1.76E-02	102.29	79.52	83.53	84.74	89.66	89.76	89.35	83.44	85.1	88.62	93.53		
32	205021.DCR.RR	1	33848	41489	31	61.5	38	1.65E-02	102.03	1.66E-02	102.19	80.18	84.82	87.93	79.86	84.32	88.49	84.75	86.2	87.99	94.3		
33	205021.DCR.RR	1	34940	42581	32	63.5	39	1.01E-02	100.03	1.57E-02	101.87												
34	205021.DCR.RR	1	36032	43673	33	65.5	40	1.31E-02	101.03	1.55E-02	101.91												
35	205021.DCR.RR	1	37124	44765	34	67.5	41	1.09E-02	100.33	1.50E-02	101.75	85.89	77.39	83.69	89.72	87.21	86.62	86.42	86.15	91.87			
36	205021.DCR.RR	1	38216	45857	35	69.5	42	1.16E-02	100.76	1.42E-02	101.53	86.65											
37	205021.DCR.RR	1	39308	46949	36	71.5	43	1.03E-02	100.14	1.41E-02	101.49												
38	205021.DCR.RR	1	40400	48041	37	73.5	44	1.62E-02	101.28	1.21E-02	101.18	83.89											
39	205021.DCR.RR	1	41492	49133	38	75.5	45	1.46E-02	100.77	1.18E-02	101.17												
40	205021.DCR.RR	1	42584	50225	39	77.5	46	1.89E-02	101.93	1.47E-02	101.67												
41	205021.DCR.RR	1	43676	51317	40	79.5	47	1.63E-02	101.11	1.66E-02	102.76	90.95											
42	205021.DCR.RR	1	44768	52409	41	81.5	48	1.74E-02	102.41	1.82E-02	102.83	85.48											
43	205021.DCR.RR	1	45860	53501	42	83.5	49	1.63E-02	101.43	1.67E-02	102.72												
44	205021.DCR.RR	1	46952	54593	43	85.5	50	1.38E-02	101.25	1.51E-02	103.33												
45	205021.DCR.RR	1	48044	55685	44	87.5	51	1.68E-02	102.24	2.28E-02	103.55												
46	205021.DCR.RR	1	49136	56777	45	89.5	52	1.89E-02	102.76	1.94E-02	102.88												
47	205021.DCR.RR	1	50228	57869	46	91.5	53	2.00E-02	103.01	1.65E-02	102.18	79.59											
48	205021.DCR.RR	1	51320	58961	47	93.5	54	2.02E-02	103.07	1.58E-02	101.75	82.47											
49	205021.DCR.RR	1	52412	60053	48	95.5	55	1.79E-02	102.49	1.31E-02	101.17												
50	205021.DCR.RR	1	53504	61145	49	97.5	56	1.42E-02	101.91	1.22E-02	100.87												
51	205021.DCR.RR	1	54596	62237	50	99.5	57	1.15E-02	100.59	1.28E-02	101.12												
52	205021.DCR.RR	1	55688	63329	51	101.5	58	1.16E-02	100.65	1.28E-02	101.13												
53	205021.DCR.RR	1	56780	64421	52	103.5	59	1.16E-02	100.69	1.17E-02	100.88												
54	205021.DCR.RR	1	57872	65513	53	105.5	60	4.58E-03	98.81	1.14E-02	100.59												
55	205021.DCR.RR	1	58964	66605	54	107.5	61	1.81E-03	98.83	1.27E-02	101.04	79.99											
56	205021.DCR.RR	1	60056	67697	55	109.5	62	1.25E-02	100.98	1.34E-02	101.26	86.09	83.3										
57	205021.DCR.RR	1	61148	68789	56	111.5	63	1.18E-02	100.93	1.32E-02	101.23												

