	$M_1 = 0.5 M_m = 1.7$ $f_c = 5.0 \text{ Hz}$		M_{L} =0.3 M_{W} =0.6 f_{c} =29.5 Hz	$M_L = 0.6 M_w = 0.9$ $f_c = 22.8 \text{ Hz}$	$M_{L}=0.7 M_{W}=0.9$ $f_{c}=23.1 Hz$	M_{L} =0.6 M_{w} =0.8 f_{c} =25.4 Hz	$M_{L}=1.1 M_{w}=1.0$ $f_{c}=25.5 Hz$	M_{L} =0.4 M_{w} =0.7 f_{c} =23.2 Hz
10^{11} 10^{9}								
	2018156105500	2018156132827	2018157010141	2018157013858	2018157121700	2018158072013	2018158204112	2018159000959
10 ¹¹	M_{L} =0.3 M_{w} =0.5 f_{c} =27.9 Hz	M_{L} =0.8 M_{w} =0.9 f_{c} =29.1 Hz	$M_L = 0.8 M_w = 1.0$ $f_c = 22.7 \text{ Hz}$	M_{L} =0.5 M_{w} =0.8 f_{c} =25.8 Hz	M_{L} =0.6 M_{w} =0.8 f_{c} =28.1 Hz	$M_L = 0.5 M_w = 0.7$ $f_c = 27.9 \text{ Hz}$	$M_L=1.0 M_W=1.4$	$M_L = 0.9 M_W = 1.1$ $f_c = 22.4 \text{ Hz}$
10 ⁹	2018159011231	2018159035257	2018159044000	2018159120046	2018159152310	2018160051518	2018160054115	2018160102510
	$M_{L}=0.7 M_{W}=0.9$	$M_{L}=0.4 M_{W}=0.5$ $f_{c}=30.5 Hz$	M _L =0.3 M _w =1.5	$M_{L}=0.6 M_{W}=0.9$ $f_{c}=23.3 \text{ Hz}$	$M_{L}=0.6 M_{W}=0.7$ $f_{c}=31.3 \text{ Hz}$	$M_{L}=0.8 M_{W}=0.9$ $f_{c}=29.3 \text{ Hz}$	$M_{L}=0.2 M_{W}=0.4$ $f_{c}=37.3 \text{ Hz}$	M _L =1.4 M _w =1.6
10^{11} 10^{9}		I _C =30.3 HZ	-7 _c =5.0 HZ	I _c =23.3 H2	I _c =31.3 Hz	I _C =29.3 ft2	/ _c =37.3 π2	21.2 Hz
10	2018160135358	2018160181943	2018160211026	2018161004449	2018161102425	2018161172544	2018162012825	2018162052548
10 ¹¹	$M_L = 0.6 M_w = 0.7$ $f_c = 28.5 \text{ Hz}$	$M_1 = 0.6 M_W = 1.7$ $f_c = 5.0 \text{ Hz}$	$M_L=0.7 M_w=0.8$ $f_c=29.3 \text{ Hz}$		$M_{L}=0.9 M_{W}=1.1$ $f_{c}=23.3 Hz$	$M_{\rm L}$ =0.7 $M_{\rm w}$ =0.8 $f_{\rm c}$ =28.7 Hz	$M_L = 0.9 M_W = 1.1$ $f_c = 23.5 Hz$	$M_L=0.7 M_W=0.9$ $f_c=25.6 Hz$
10 ⁹		-		_	-	-	-	-
	2018162102701	2018162103517 	2018162124708 	2018162134139 M _L =1.0 M _w =1.3	2018162195803 	2018162224749 	2018163001121 M _L =0.2 M _w =0.5	2018163031320
10 ¹¹		f _c =18.1 Hz	£=20.5 Hz	f _c =19.6 Hz	f _c =20.5 Hz	f _c =22.7 Hz	f _c =28.9 Hz	f _c =27.4 Hz
10 ⁹	2018163115829	2018163132124	2018164031000	2018165002042	2018165152357	2018165200500	2018166021841	2018166111647
10^{11}	$M_L = 1.0 M_w = 1.1$ $f_c = 27.2 \text{ Hz}$	$M_L = 0.4 M_W = 1.5$	M_L =0.6 M_w =0.8 f_c =20.9 Hz	$M_{L}=0.4 M_{W}=0.6$ $f_{c}=31.1 Hz$	$M_1 = 0.6 M_{m} = 1.7$ $f_c = 5.0 \text{ Hz}$	$M_L = 0.4 M_W = 1.5$	$M_L=0.4 M_w=0.6$ $f_c=28.1 Hz$	$M_L = 0.8 M_W = 1.0$ $f_c = 21.6 \text{ Hz}$
10 ⁹			-	-	- Jackson - Jack		-	
	2018168094946	2018168112428	2018169024000	2018169033430	2018169042045	2018169213726	2018169230658	2018170012100
10 ¹¹	$M_L=0.6 M_w=0.7$ $f_c=29.4 Hz$	M_{L} =0.4 M_{w} =0.8 f_{c} =18.0 Hz		_	$M_{L}=0.8 M_{W}=1.0$ $f_{c}=24.2 \text{ Hz}$	M_{L} =0.7 M_{w} =0.9 f_{c} =21.1 Hz	M_{L} =0.7 M_{w} =0.8 f_{c} =22.3 Hz	$M_L=0.5 M_w=0.7$ $f_c=23.5 Hz$
10 ⁹	2018170013500	2018170022530	2018170070706	2018170141444	2018170145100	2018170191546	2018170200105	2018170210141
10 ¹¹	$M_{\rm L} = 1.3 \ M_{\rm W} = 1.6$	M_{L} =0.8 M_{w} =0.9 f_{c} =20.8 Hz	$M_{L}=0.8 M_{W}=1.0$ $f_{c}=20.8 Hz$		$-M_L = 0.7 - M_W = 1.9 - f_c = 5.0 \text{ Hz}$	$M_{L}=0.8 M_{W}=1.0$ $f_{c}=21.3 Hz$	$M_1 = 0.6 M_w = 1.7$ $f_c = 5.0 \text{ Hz}$	M_{L} =0.6 M_{w} =0.8 f_{c} =22.6 Hz
10 ²²		- See See				-		
	2018171001230	2018171003700	2018171005900	2018171034700	2018171100309	2018171100500	2018171101020	2018171113245
10 ¹¹		M_L =0.8 M_w =1.0 f_c =25.9 Hz	$M_{L}=1.1 M_{w}=1.3$ $f_{L}=20.0 Hz$	7 _c 15.9 Hz	$M_L = 0.4 M_w = 0.6$ $f_c = 27.6 \text{ Hz}$	$M_L = 0.8 M_w = 1.0$ $f_c = 19.5 Hz$	$M_L = 0.5 M_w = 0.6$ $f_c = 25.8 \text{ Hz}$	
10 ⁹	2018171120032	2018171170704	2018171173814	2018171232614	2018171233929	2018172001100	2018172010600	2018172041700
	$M_{L}=0.6 M_{W}=0.7$	$M_{\rm L} = 0.8 M_{\rm W} = 0.9$	$M_{L}=1.2 M_{W}=1.5$	$M_{L}=0.8 M_{W}=1.1$	$M_{L}=0.8 M_{W}=1.0$	$M_{L}=0.7 M_{W}=0.8$	$M_{L}=0.4 M_{W}=0.5$	$M_{L}=1.0 M_{W}=1.3$
10 ¹¹	f _c =26.3 Hz	f _c =28.2 Hz	±=21.3+tz	f _c =21.3 Hz	f _c =24.7 Hz	f _c =27.8 Hz	f _c =31.4 Hz	f _c =16.8 Hz
10 ⁹	2018172070230	2018172090030	2018172175518	2018172180735	2018172183326	2018172230708	2018172234909	2018173042858
10 ¹¹	$M_L = 0.9 M_w = 1.0$ $f_c = 22.8 \text{ Hz}$	M_{L} =0.7 M_{w} =0.9 f_{c} =22.7 Hz	$M_{L}=0.9~M_{W}=1.0$ $f_{c}=27.0~Hz$	$M_{L} = 0.5 M_{W} = 1.6$ $f_{c} = 5.0 \text{ Hz}$	$M_{L}=1.0 M_{W}=1.2$ $f_{c}=21.5 Hz$	$M_{L}=1.1 M_{W}=1.4$ $f_{L}=19.0 \text{ Hz}$	$\frac{M_{\rm L}=0.0~M_{\rm W}=1.7}{f_{\rm c}=5.0~{\rm Hz}}$	M_{L} =0.6 M_{w} =0.7 f_{c} =25.1 Hz
10 ⁹	_	-		- Dead	-	_	-	-
	2018173043508 	2018173072237 	2018173130130 	2018173142304 M _L =1.0 M _w =1.2	2018173151655 	2018173181236 	2018173191258 M _L =0.6 M _w =0.6	2018173214953
10 ¹¹	f _c =21.6 Hz	f _c =26.5 Hz	f _c =19.0 Hz	f _c =23.1 Hz	f_{c} =30.7 Hz	f.=23.6 Hz	$f_c = 29.1 \text{ Hz}$	f _c =28.2 Hz
10 ⁹	2018173220003	2018174040400	2018174043300	2018174062000	2018174064100	2018174085934	2018174131934	2018174154112
10^{11}	$M_L=1.1 M_w=1.2$ $f_c=19.5 Hz$		$M_L = 0.4 M_W = 1.6$ $f_c = 5.0 \text{ Hz}$	$M_{L}=0.8 M_{W}=1.0$ $f_{c}=19.5 Hz$	$M_L = 0.5 M_W = 1.6$	M_L =0.8 M_w =1.0 f_c =22.9 Hz	$M_L = 0.5 M_w = 0.7$ $f_c = 30.8 \text{ Hz}$	$M_L = 0.7 M_w = 1.0$ $f_c = 16.7 \text{ Hz}$
(원) 10 ⁹	_	-]		-	
ctrum ω M (Nm)	2018175062422	2018175071713	2018175132759	2018176001813	2018176155852	2018176170554	2018176210520	2018177104730
8 1011	$\frac{M_1 = 0.5 M_w = 1.7}{f_c = 5.0 \text{ Hz}}$	M_{L} =0.9 M_{w} =1.2 f_{c} =23.6 Hz	$M_L = 0.8 M_w = 1.1$ $f_c = 22.4 \text{ Hz}$	M _L =1.2 M _w =1.4 £=21.7 Hz -	$M_{L}=0.9 M_{W}=1.1$ $f_{c}=21.3 Hz$	7,7 M _w =1.9 7,215.1 Hz	$M_{\rm L}$ =1.5 $M_{\rm w}$ =1.6 18.0 Hz	$M_{L}=0.6 M_{w}=0.9$ $f_{c}=17.7 Hz$
source displacement 1011	2018178152609	2018178222942	2018179053245	2018179233042	2018180013150	2018180040100	2018180094138	2018181040940
rce disp	M _I = 1.4 M _w = 1.6	$M_{L}=0.8 M_{W}=1.1$ $f_{c}=21.5 \text{ Hz}$	$M_L = 0.8 M_W = 1.0$ $f_c = 24.8 \text{ Hz}$	$M_{L}=1.0 M_{W}=1.2$ $f_{c}=22.0 Hz$	$M_{L}=1.1 M_{W}=1.3$ $f_{c}=19.4 Hz$	$M_{L}=0.8 M_{W}=1.1$ $f_{c}=21.3 Hz$	$M_{L}=0.9 M_{W}=1.0$ $f_{c}=25.6 Hz$	$M_L = 0.7 M_W = 0.9$ $f_c = 21.9 \text{ Hz}$
10°		a de					-	-
	2018181065239	2018181192300	2018182124340	2018182203248	2018182212250	2018182233301	2018183155952	2018183202531
10 ¹¹	$M_L=1.0 M_w=1.2$ $f_c=18.7 Hz$	M_L =0.6 M_w =0.7 f_c =30.2 Hz	$M_{\rm L}$ =1.1 $M_{\rm W}$ =1.2 $f_{\rm c}$ =21.8 Hz	M _L =1.2 M _w =1.4 £=18.3 Hz	$M_{L}=0.9 M_{W}=1.1$ $f_{c}=22.4 Hz$	$M_{L}=1.1 M_{W}=1.2$ $f_{c}=21.6 Hz$	$M_{L}=1.1 M_{W}=1.0$ $f_{c}=23.8 \text{ Hz}$	$M_{L}=0.7 M_{W}=0.9$ $f_{c}=24.0 Hz$
10 ⁹	2018183215029	2018184003003	2018184201046	2018184202906	2018185001326	2018185014623	2018185034551	2018185120950
10 ¹¹	$M_{L}=0.7 M_{w}=0.9$ $f_{c}=24.1 Hz$	$M_{L}=0.7 M_{W}=0.9$ $f_{c}=20.1 Hz$	M _L =1.4 M _w =1.6		$M_{L}=0.8 M_{W}=0.9$ $f_{c}=25.4 \text{ Hz}$	$M_{L}=0.9 M_{W}=1.1$ $f_{c}=20.6 \text{ Hz}$	$M_{L}=0.5 M_{w}=0.7$ $f_{c}=24.1 \text{ Hz}$	$M_{L}=0.7 M_{W}=0.8$ $f_{c}=23.0 \text{ Hz}$
10 ²²								
	2018185145450	2018185155423	2018186070100	2018186092109	2018186115357	2018186131522	2018186202646	2018186215007
10 ¹¹	$M_{L}=0.6 M_{W}=0.9$ $f_{c}=19.9 \text{ Hz}$	M_L =0.6 M_w =0.7 f_c =25.3 Hz	$M_1 = 1.3 M_w = 1.7$ = 16.2 Hz	$M_{L}=0.8 M_{W}=1.1$ $f_{c}=19.5 Hz$	M_{L} =0.6 M_{W} =0.8 f_{c} =24.7 Hz	M _L =1.4 M _w =1.6 =19.0 Hz	$M_L=1.0 M_W=1.2$ $f_c=22.9 Hz$	$M_L=0.7 M_w=0.9$ $f_c=27.4 Hz$
10 ⁹	2018187034808	2018187062657	2018187084836	2018188142051	2018188161324	2018188173124	2018188175428	2018188193122
	$M_{L}=0.7 M_{W}=0.9$	$M_{L}=0.8 M_{W}=1.1$	$M_{L}=0.7 M_{W}=1.0$	$M_{L}=0.6 M_{W}=0.8$	$M_{L}=0.7 M_{W}=0.8$	$M_{L}=0.6 M_{W}=0.7$	$M_{L}=0.4 M_{W}=0.7$	$M_{L}=0.5 M_{W}=1.0$
10 ¹¹ 10 ⁹		f _c =20.9 Hz	f _c =19.7 Hz	f _c =29.6 Hz	f _c =27.0 Hz	f _c =25.2 Hz	f _c =24.6 Hz	f _c =22.1 Hz
10	2018188202905	2018188214438	2018188214700	2018188214802	2018189060720	2018189070845	2018189095118	2018189132738
10 ¹¹	$M_L=0.8 M_W=1.0$ $f_c=22.7 Hz$	M_{L} =0.8 M_{W} =0.9 f_{c} =23.5 Hz	$M_L = 0.6 M_w = 1.0$ $f_c = 17.9 \text{ Hz}$	$M_L = 0.8 M_W = 1.1$ $f_c = 22.1 \text{ Hz}$	M_{L} =0.6 M_{W} =0.8 f_{c} =26.9 Hz	$f_c = 5.2 \text{ Hz}$	$M_{L}=0.5 M_{W}=0.6$ $f_{c}=25.1 \text{ Hz}$	M_L =0.6 M_w =0.8 f_c =26.0 Hz
10 ⁹	2018189132728	2018189142028	2018189152317	2018189160854	2018189163251	2018189173537	2018189195043	2018190005253
	$M_{L}=1.1 M_{W}=1.3$ $f_{c}=24.2 \text{ Hz}$	$M_{\rm L} = 0.3 \ M_{\rm w} = 0.6$	$M_{L}=0.8 M_{W}=1.0$ $f_{c}=23.9 \text{ Hz}$	M ₁ = 1.3 M _W = 1.7 = 16.6 Hz	$M_{L}=0.5 M_{W}=0.7$	$M_1 = 0.6 M_m = 1.7$ $f_c = 5.0 \text{ Hz}$	M _L =1.3 M _w =1.6	$M_{\rm L} = 0.8 \ M_{\rm W} = 1.0$
10 ¹¹ 10 ⁹	200	f _c =23.4 Hz	I _C =23.9 HZ	10.6 Hz	f _c =23.0 Hz	r _c =5.0 Hz	=16.2 HZ	f _c =23.9 Hz
10,	2018190020811	2018190025747	2018190155046	2018193142500	2018193204529	2018194085018	2018194133411	2018195011432
10 ¹¹	$M_{L}=0.6 M_{w}=0.7$ $f_{c}=26.1 \text{ Hz}$	M_{L} =0.9 M_{W} =1.2 f_{c} =17.5 Hz	$M_L = 0.5 M_w = 0.6$ $f_c = 30.9 \text{ Hz}$	$M_{L}=0.6 M_{W}=0.8$ $f_{c}=22.2 \text{ Hz}$	$M_L=0.8 M_W=0.9$ $f_c=22.3 \text{ Hz}$	$M_{L}=0.8 M_{W}=1.0$ $f_{c}=21.3 Hz$	-	$M_{L}=0.7 M_{W}=0.9$ $f_{c}=26.1 \text{ Hz}$
10 ⁹	2018195074501	2018105122642	2018105172221	2018105105242	2018106002027	2018196010720	2018196071000	2018196133041
	$M_{L}=0.7 M_{W}=0.7$	2018195123640 M _L =0.7 M _w =0.9	2018195172331 M_L=0.6 M_w=1.6 fc=5.0 Hz	2018195195343 	2018196003937 	2018196010738 M _L =0.9 M _W =1.2	2018196071020 	2018196133941
10 ¹¹	f _c =31.1 Hz	f _c =25.6 Hz	f _c =5.0 Hz	f _c =5.0 Hz	_ f _c = 5.7 Hz	f _c =23.4 Hz	f _c =25.6 Hz	=15.7 Hz
10 ⁹	2018196200450	2018197015541	2018197070436	2018197091659	2018197172535	2018197183626	2018199080816	2018199104200
10 ¹¹	$M_L = 0.9 M_w = 1.2$ $f_c = 20.6 \text{ Hz}$	$f_c = 0.7 M_W = 1.9$	$M_L = 0.5 M_w = 1.6$	M_{L} =0.5 M_{W} =0.6 f_{c} =31.7 Hz	M _L =1.2 M _w =1.6	$M_L=0.5 M_W=0.7$ $f_c=28.7 \text{ Hz}$	$M_L=0.5 M_w=0.8$ $f_c=23.4 \text{ Hz}$	$M_{L}=1.0 \ M_{W}=1.2$ $f_{c}=21.6 \ Hz$
10 ⁹		-		-	-	-	-	
	2018199170820 	2018199170914	2018199194117 M _L =0.9 M _w =1.1	2018199204703 	2018199224500 	2018200015608 M _L =0.6 M _w =0.9	2018200040208 M _L =0.7 M _w =1.2	2018200082657
10 ¹¹	f _c =19.0 Hz	_	f _c =21.8 Hz		_ 16.6 Hz	f _c =20.7 Hz	f _c =16.9 Hz	f _c =27.1 Hz
10 ⁹	2018200100833	2018200100919	2018200102006	2018200105407	2018200105452	2018200105703	2018200134612	2018200143037
10 ¹¹	$M_{L}=0.4 M_{W}=0.8$ $f_{c}=19.1 \text{ Hz}$	M_{L} =0.8 M_{w} =0.9 f_{c} =26.8 Hz		$M_{L}=0.6 M_{W}=0.9$ $f_{c}=16.9 \text{ Hz}$	$M_{L}=0.7 M_{W}=0.9$ $f_{c}=21.0 \text{ Hz}$	$M_{L}=1.2 M_{W}=1.2$ $f_{c}=25.1 Hz$	$M_{L}=0.5 M_{W}=0.7$ $f_{c}=22.9 \text{ Hz}$	$M_{L}=0.5 M_{w}=0.7$ $f_{c}=28.1 \text{ Hz}$
10 ⁹			•	-		-	-	
	2018200170651	2018200191849	2018201073346	2018201152715	2018202112855	2018202134535	2018202144515	2018202222748
10 ¹¹	$M_L = 0.5 M_w = 0.5$ $f_c = 30.2 \text{ Hz}$	$M_L=0.5 M_w=0.7$ $f_c=31.0 Hz$		$M_{L}=0.6 M_{W}=0.7$ $f_{c}=28.1 \text{ Hz}$	$M_L = 0.7 M_w = 0.9$ $f_c = 25.9 \text{ Hz}$	$M_L = 0.5 M_w = 0.7$ $f_c = 25.4 \text{ Hz}$	M_{L} =0.7 M_{w} =0.7 f_{c} =28.5 Hz	$M_L=1.0 M_w=1.2$ $f_c=24.2 Hz$
10 ⁹	2018202225701	2018202234429	2018203030928	2018203081713	2018203090059	2018203113243	2018203124722	2018203171420
<u>.</u> . • •	$M_{L}=0.5 M_{W}=0.6$ $f_{c}=26.3 Hz$	$M_{L}=1.1 M_{W}=1.2$ $f_{c}=23.4 \text{ Hz}$	$M_{L}=0.7 M_{W}=0.9$ $f_{c}=25.7 Hz$	$M_{L}=0.5 M_{W}=0.7$ $f_{c}=25.1 \text{ Hz}$	M _L =1.4 M _w =1.5	$M_{L}=0.9 M_{W}=1.3$ $f_{c}=20.3 Hz$	$M_{L}=0.5 M_{W}=0.6$ $f_{c}=27.5 Hz$	10 100 10 105
10^{11}	ر –۷۰۰ ۱۱۲	10-25.4 TZ	, , , , , , , , , , , , , , , , , , ,	23.1 П2	20.0 172	1. T. V. J. T. Z.	ا کا ۱۵۰۵ ا	- 28 such that s
10 ⁹	_	· -	1 - '	,		_	, ₁ - '	
10 ⁹	2018203174444	2018203230921 10 100	2018203232316	2018204160756	2018204220258	2018204234743	2018205205035	- 7 ^{SS}