

APPENDIX-I

Table A-1: Bubble size distribution (BSD) is presented here. The table provides values of N_b in various size ranges of bubbles separated by 0.0005 m. The different classes of bubble-size are as following:

Bubble-size class	Range of $d_b \times 10^3$, m	Bubble-size class	Range of $d_b \times 10^3$, m	Bubble-size class	Range of $d_b \times 10^3$, m
1	0.5-1	11	5.5-6	21	10.5-11
2	1-1.5	12	6-6.5	22	11-11.5
3	1.5-2	13	6.5-7	23	11.5-12
4	2-2.5	14	7-7.5	24	12-12.5
5	2.5-3	15	7.5-8	25	12.5-13
6	3-3.5	16	8-8.5	26	13-13.5
7	3.5-4	17	8.5-9	27	13.5-14
8	4-4.5	18	9-9.5	28	14-14.5
9	4.5-5	19	9.5-10		
10	5-5.5	20	10-10.5		

Table A-2: Number of bubbles, N_b , at various bubble sizes, d_b , for air/Water at $H_s=0.24$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g , ms^{-1}	Bubble-size class																											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
0.05	0.0458	0	0	550	337	211	133	106	101	21	14	82	121	8	10	2	0	14	8	36	4	21	88	30	16	5	10	0	0
0.10	0.0458	0	166	450	312	179	153	99	31	14	108	96	13	9	0	3	11	18	2	22	120	8	13	9	0	0	0	0	0
0.15	0.0458	0	385	463	224	179	115	37	37	130	40	22	2	2	23	23	8	62	53	20	14	6	0	0	0	0	0	0	0
0.20	0.0458	0	535	505	253	51	154	38	60	131	19	0	3	6	3	1	2	19	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0500	0	0	339	457	151	111	257	0	70	83	61	31	31	43	30	14	11	21	18	18	9	13	11	23	15	18	10	15
0.05	0.0500	0	0	486	254	227	232	0	28	136	17	33	43	71	50	17	1	0	0	3	0	8	2	24	67	32	16	0	0
0.10	0.0500	0	167	374	362	138	253	0	126	71	49	33	35	14	11	11	15	25	22	27	26	25	28	19	5	0	0	0	0
0.15	0.0500	0	365	529	279	279	0	128	77	69	59	45	46	6	28	15	20	17	30	13	23	11	0	0	0	0	0	0	0
0.20	0.0500	0	541	502	251	0	203	26	50	97	81	2	0	2	3	4	2	6	17	0	0	0	0	0	0	0	0	0	0
0.00	0.0417	0	0	342	374	192	98	248	0	46	98	49	41	25	34	17	23	14	11	17	21	12	21	14	25	11	12	10	12
0.05	0.0417	0	0	490	246	224	231	0	34	115	24	44	43	60	44	14	1	2	3	5	3	6	13	22	61	27	8	0	0
0.10	0.0417	0	211	367	362	84	251	0	140	45	53	44	35	19	19	12	14	20	18	22	34	29	29	11	0	0	0	0	0
0.15	0.0417	0	406	445	240	262	19	127	56	91	35	53	6	21	5	26	20	25	31	20	9	0	0	0	0	0	0	0	0
0.20	0.0417	0	804	271	260	100	110	45	87	116	2	3	1	9	3	3	7	9	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0333	0	0	334	456	135	118	253	0	54	77	77	34	27	38	28	9	12	13	26	15	6	19	16	20	14	14	16	6
0.05	0.0333	0	0	558	259	259	259	0	50	114	36	42	53	65	52	9	0	1	3	4	2	4	7	39	51	36	18	0	0
0.10	0.0333	0	219	384	351	58	251	11	110	68	58	34	30	18	15	17	21	17	19	22	33	24	14	8	0	0	0	0	0
0.15	0.0333	0	454	386	226	259	48	109	61	78	41	60	3	4	30	9	29	26	18	21	10	0	0	0	0	0	0	0	0
0.20	0.0333	81	754	264	264	168	58	52	130	63	0	0	1	5	0	9	16	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0250	0	0	352	458	133	125	258	0	65	75	58	41	34	38	22	19	12	18	22	26	12	9	11	8	11	18	11	11
0.05	0.0250	0	0	563	262	253	257	0	81	104	22	39	62	65	59	6	0	1	1	3	1	6	7	51	49	37	8	0	0
0.10	0.0250	0	240	314	490	0	252	48	90	70	55	34	27	10	8	9	24	25	16	26	45	21	18	10	0	0	0	0	0
0.15	0.0250	0	554	261	247	253	117	71	45	81	65	36	8	14	20	6	8	44	18	34	0	0	0	0	0	0	0	0	0
0.20	0.0250	228	597	265	265	136	102	68	43	18	28	28	29	38	38	36	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0208	0	0	335	453	147	104	251	0	57	79	61	36	35	35	24	10	12	11	19	18	12	25	16	14	16	7	9	14
0.05	0.0208	0	0	583	262	262	262	0	81	111	37	33	43	82	56	12	0	2	2	4	4	3	11	25	46	43	5	0	0
0.10	0.0208	0	240	540	246	0	246	52	77	81	43	36	28	17	12	22	30	14	23	17	21	15	8	1	0	0	0	0	0
0.15	0.0208	0	597	323	215	269	140	79	42	100	67	25	6	13	6	12	23	22	24	59	0	0	0	0	0	0	0	0	0
0.20	0.0208	256	599	269	269	197	58	102	108	1	2	1	3	10	14	18	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0167	0	0	342	455	163	108	261	0	56	88	61	41	32	32	17	11	9	11	22	21	10	19	23	28	17	17	13	15
0.05	0.0167	0	0	564	258	257	257	0	71	106	32	34	63	70	53	3	1	0	2	2	4	2	10	33	50	42	6	0	0
0.10	0.0167	0	261	551	264	200	62	54	105	71	42	32	29	25	23	28	26	22	24	24	13	11	10	0	0	0	0	0	0

Z, m	U_g , ms ⁻¹	Bubble-size class																											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
0.15	0.0167	0	590	351	185	268	142	72	48	93	76	14	6	11	6	19	10	24	44	48	0	0	0	0	0	0	0	0	0
0.20	0.0167	293	512	508	0	197	57	111	76	3	0	2	4	4	28	7	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0125	0	0	348	357	207	83	245	0	39	83	55	43	36	21	30	11	10	15	12	20	13	20	19	24	11	16	13	16
0.05	0.0125	0	0	552	252	252	252	0	65	89	43	43	64	58	36	9	1	0	2	3	3	2	16	30	40	33	6	0	0
0.10	0.0125	0	259	535	251	37	214	52	84	76	45	31	22	28	9	20	24	17	24	19	29	19	15	0	0	0	0	0	0
0.15	0.0125	0	525	368	124	246	115	61	71	48	60	10	3	19	69	5	11	14	22	10	0	0	0	0	0	0	0	0	0
0.20	0.0125	323	581	449	53	167	51	128	70	2	0	4	4	4	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0083	0	0	366	370	222	81	259	0	45	88	59	49	31	27	23	22	6	14	7	20	19	15	15	24	20	25	16	13
0.05	0.0083	0	0	542	281	224	254	0	64	83	47	55	37	56	40	3	4	10	24	30	4	4	14	9	23	58	0	0	0
0.10	0.0083	0	241	485	236	232	0	74	69	65	32	55	23	14	17	13	20	11	11	25	16	13	19	0	0	0	0	0	0
0.15	0.0083	0	521	386	125	206	119	66	55	52	72	4	10	37	15	8	11	16	43	14	0	0	0	0	0	0	0	0	0

Table A-3: Number of bubbles, N_b , at various bubble sizes, d_b , for air/Water at $H_s=0.22$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g , ms ⁻¹	Bubble-size class																											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
0.00	0.0833	0	0	454	514	293	0	293	0	96	2	187	8	4	91	2	0	0	0	3	0	0	6	0	24	3	6	1	
0.05	0.0833	0	71	581	248	248	248	0	79	11	147	11	2	83	4	2	2	3	1	4	11	1	10	7	10	2	0	0	
0.15	0.0833	0	473	500	274	274	6	75	189	6	64	12	2	2	12	6	29	48	3	14	6	0	0	0	0	0	0	0	
0.00	0.0750	0	0	356	413	234	0	234	0	47	0	187	0	6	36	4	0	3	0	3	11	5	12	9	31	12	10	0	
0.05	0.0750	0	94	567	250	246	248	0	58	0	176	10	40	19	0	0	0	3	0	15	37	12	22	41	19	0	0	0	
0.10	0.0750	0	255	568	250	214	36	24	35	170	33	24	20	0	0	1	1	15	61	3	65	1	8	0	0	0	0	0	
0.15	0.0750	0	435	369	231	231	11	42	167	20	42	0	0	1	2	27	27	33	19	8	0	0	0	0	0	0	0	0	
0.20	0.0750	112	865	270	270	64	153	53	59	5	0	0	4	34	24	22	29	0	0	0	0	0	0	0	0	0	0	0	
0.00	0.0667	0	0	383	440	250	0	250	0	71	2	142	41	19	46	1	0	0	0	0	0	20	10	0	7	88	6	0	
0.05	0.0667	0	118	551	260	260	260	0	36	1	221	3	6	29	0	0	1	2	2	1	11	2	32	39	47	0	0	0	
0.10	0.0667	0	278	536	250	250	0	77	17	144	34	56	13	0	0	0	3	3	27	2	27	43	36	0	0	0	0	0	
0.15	0.0667	0	707	275	275	275	34	22	216	12	35	0	0	4	1	25	22	5	51	32	0	0	0	0	0	0	0	0	
0.20	0.0667	168	692	236	236	58	159	44	32	2	0	0	1	25	5	59	14	0	0	0	0	0	0	0	0	0	0	0	
0.00	0.0583	0	0	394	474	262	0	262	0	55	4	199	5	6	44	2	4	0	0	3	0	44	0	1	27	24	25	2	
0.05	0.0583	0	127	475	234	234	234	0	14	4	213	4	2	13	1	0	0	9	16	12	4	12	32	24	18	0	0	0	

Z, m	$U_g,$ ms^{-1}	Bubble-size class																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
0.10	0.0583	0	296	476	238	238	0	48	10	177	5	45	2	7	0	5	7	20	0	12	4	41	2	0	0	0	0	0
0.15	0.0583	0	642	252	243	247	51	163	31	8	37	10	0	3	29	3	0	9	29	3	0	0	0	0	0	0	0	0
0.20	0.0583	188	698	250	250	88	161	3	81	4	0	12	16	23	23	17	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0500	0	0	372	440	246	0	246	0	62	0	176	8	2	60	0	0	0	0	7	1	13	0	2	4	28	41	0
0.05	0.0500	0	153	498	248	248	248	0	77	6	164	1	13	62	3	1	0	1	0	0	0	1	23	8	25	0	0	0
0.10	0.0500	0	307	502	251	251	0	70	15	166	0	60	10	0	0	9	1	17	0	0	11	41	0	0	0	0	0	0
0.15	0.0500	0	694	277	267	272	99	107	66	6	91	1	1	16	9	29	18	11	28	3	0	0	0	0	0	0	0	0
0.20	0.0500	221	694	257	257	78	178	3	72	2	7	22	9	6	15	14	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0417	0	0	410	457	262	0	262	0	66	1	193	2	6	54	3	1	35	1	25	0	7	0	1	2	11	20	3
0.05	0.0417	0	138	511	259	259	259	0	89	2	162	6	10	71	6	6	0	25	2	8	0	4	7	20	34	0	0	0
0.10	0.0417	0	325	501	254	254	0	94	20	139	1	89	4	1	0	18	4	4	18	0	15	29	4	0	0	0	0	0
0.15	0.0417	0	606	259	392	84	72	132	41	9	63	2	0	13	5	2	13	12	36	3	0	0	0	0	0	0	0	0
0.20	0.0417	257	614	360	124	82	160	30	51	0	5	3	5	5	43	1	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0333	0	0	410	445	263	0	263	0	81	4	178	0	3	71	7	0	4	0	7	8	6	0	1	9	10	44	0
0.05	0.0333	0	145	477	246	244	245	0	47	7	191	0	5	41	0	1	0	10	11	4	0	8	12	5	43	0	0	0
0.10	0.0333	0	313	482	243	243	0	66	40	137	0	57	4	1	0	7	8	21	9	2	19	22	7	0	0	0	0	0
0.15	0.0333	0	655	484	284	0	81	169	6	69	8	2	0	12	0	13	4	10	48	0	0	0	0	0	0	0	0	0
0.20	0.0333	409	512	514	0	75	182	58	7	1	6	5	10	19	40	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0250	0	0	362	432	244	0	244	0	63	0	170	11	4	55	3	0	0	0	15	21	2	1	2	3	27	28	1
0.05	0.0250	0	163	475	244	244	244	0	108	12	124	3	50	52	2	0	0	7	4	9	0	1	4	28	22	0	0	0
0.10	0.0250	0	329	486	247	247	0	73	116	58	5	57	11	0	0	8	3	1	0	2	5	14	0	0	0	0	0	0
0.15	0.0250	0	660	505	253	0	67	182	5	56	10	0	5	9	3	1	7	60	0	0	0	0	0	0	0	0	0	0
0.20	0.0250	421	739	261	96	157	2	97	1	11	1	0	11	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0167	0	0	402	461	268	0	268	0	103	1	163	2	33	68	1	0	0	0	3	7	0	16	0	31	3	8	0
0.05	0.0167	0	166	469	250	246	248	0	98	43	107	0	38	59	1	0	1	2	1	3	1	40	2	1	12	0	0	0
0.10	0.0167	0	337	475	251	251	0	101	99	51	14	82	5	0	1	0	4	0	26	2	1	6	0	0	0	0	0	0
0.15	0.0167	0	1020	790	395	0	155	239	4	148	5	0	7	1	1	41	11	35	0	0	0	0	0	0	0	0	0	0
0.20	0.0167	598	476	238	91	147	68	22	4	10	2	9	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0083	0	0	355	423	239	0	239	0	69	0	164	6	29	38	1	0	0	0	2	5	2	5	0	13	1	9	0
0.05	0.0083	0	142	475	246	246	246	0	52	40	154	1	16	33	1	0	6	9	13	2	9	48	2	2	12	0	0	0
0.10	0.0083	0	337	498	259	259	0	98	133	28	16	81	0	0	2	2	4	1	33	1	2	21	0	0	0	0	0	0
0.15	0.0083	0	621	496	248	2	84	162	15	68	1	2	1	1	5	9	5	15	0	0	0	0	0	0	0	0	0	0
0.20	0.0083	719	546	273	90	183	84	6	3	5	1	15	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-4: Number of bubbles, N_b , at various bubble sizes, d_b , for air/Water at $H_s = 0.20$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.1042	0	0	773	343	343	343	0	2	128	154	57	3	114	13	1	0	0	9	2	1	1	0	6	9	22	0
0.05	0.1042	0	170	439	256	232	244	0	106	107	31	5	90	8	0	0	3	6	1	9	5	16	26	31	1	0	0
0.10	0.1042	0	322	472	251	251	0	151	73	27	86	38	18	0	0	6	20	8	0	15	5	16	0	0	0	0	0
0.15	0.1042	0	649	328	228	230	167	77	18	99	61	0	0	8	19	14	6	14	12	0	0	0	0	0	0	0	0
0.20	0.1042	195	708	254	254	93	158	19	73	2	0	12	13	2	30	7	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	0	559	249	249	249	0	2	129	93	25	0	124	4	0	1	0	9	5	2	2	3	10	2	15	1
0.05	0.0833	0	183	459	275	243	259	0	124	87	46	2	108	12	0	0	2	0	10	3	1	5	16	17	5	0	0
0.10	0.0833	0	304	455	239	239	0	128	62	49	5	116	4	1	0	15	10	4	0	6	2	7	0	0	0	0	0
0.15	0.0833	0	573	448	248	0	113	114	5	101	10	2	1	13	8	25	4	4	10	0	0	0	0	0	0	0	0
0.20	0.0833	234	656	257	257	141	116	32	106	1	7	2	0	2	11	14	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0750	0	0	556	250	250	250	0	2	102	98	48	0	87	16	0	2	0	11	4	3	4	1	3	7	8	5
0.05	0.0750	0	185	465	271	247	259	0	115	84	59	1	104	6	0	1	7	9	5	14	9	3	6	13	0	0	0
0.10	0.0750	0	332	481	254	254	0	98	88	67	4	90	4	0	0	13	2	3	2	6	5	12	0	0	0	0	0
0.15	0.0750	0	633	500	259	0	109	140	5	96	8	2	2	18	1	3	3	2	9	0	0	0	0	0	0	0	0
0.20	0.0750	246	624	442	48	136	108	59	77	1	6	5	6	8	18	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0667	0	0	564	251	251	251	0	2	141	75	33	3	100	36	0	0	0	3	0	9	1	4	5	4	26	1
0.05	0.0667	0	189	442	274	227	251	0	125	82	43	3	98	18	1	0	5	1	0	12	20	6	11	36	0	0	0
0.10	0.0667	0	388	529	284	284	0	134	129	21	8	123	1	0	3	13	1	1	1	7	41	2	0	0	0	0	0
0.15	0.0667	0	710	576	288	0	141	142	14	93	36	0	12	2	3	2	5	6	51	0	0	0	0	0	0	0	0
0.20	0.0667	433	579	580	0	201	89	129	27	0	11	32	11	3	29	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0583	0	0	533	239	239	239	0	1	122	95	21	3	77	43	0	0	1	4	0	3	0	5	6	4	32	8
0.05	0.0583	0	197	437	285	221	253	1	160	60	32	1	115	40	0	0	16	0	0	0	6	3	7	31	0	0	0
0.10	0.0583	0	362	475	258	258	0	118	130	9	9	106	1	0	8	4	4	1	4	8	64	0	0	0	0	0	0
0.15	0.0583	0	631	504	252	0	105	146	8	94	0	0	11	10	2	16	10	47	0	0	0	0	0	0	0	0	0
0.20	0.0583	446	540	536	6	202	67	100	1	6	16	0	4	15	56	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0500	0	0	595	262	262	262	0	2	103	98	58	4	83	14	0	0	0	34	3	8	1	0	0	8	47	2
0.05	0.0500	0	186	430	293	190	242	0	106	103	33	18	69	8	0	0	20	0	5	1	1	3	8	35	0	0	0

Z,m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
0.10	0.0500	0	445	573	316	316	0	119	189	19	17	84	0	0	63	1	2	1	0	3	82	0	0	0	0	0	
0.15	0.0500	0	748	606	303	3	79	211	14	63	1	0	104	3	4	32	18	27	0	0	0	0	0	0	0	0	
0.20	0.0500	471	789	283	111	166	7	101	0	27	10	6	2	79	0	0	0	0	0	0	0	0	0	0	0	0	
0.00	0.0417	0	0	593	269	269	269	0	11	88	127	41	13	73	11	1	1	0	6	14	0	0	6	3	4	31	1
0.05	0.0417	0	222	458	434	86	260	1	114	121	22	11	98	4	0	0	11	11	0	1	16	5	4	40	0	0	0
0.10	0.0417	0	409	509	287	287	3	100	182	10	42	51	0	0	10	12	0	12	0	3	53	0	0	0	0	0	0
0.15	0.0417	0	656	518	259	10	93	156	11	91	0	0	13	1	8	5	7	47	0	0	0	0	0	0	0	0	0
0.20	0.0417	530	737	279	133	137	58	79	0	33	0	12	7	49	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0333	0	0	529	237	237	237	0	16	75	100	45	16	68	6	0	0	0	14	3	0	0	0	24	1	51	3
0.05	0.0333	0	191	430	454	41	248	2	99	143	3	4	96	1	0	0	9	2	0	0	2	5	14	28	0	0	0
0.10	0.0333	0	372	418	243	243	1	78	163	2	70	7	0	0	10	0	2	3	5	9	11	0	0	0	0	0	0
0.15	0.0333	0	1036	291	291	52	189	50	49	70	0	1	12	0	12	12	44	1	0	0	0	0	0	0	0	0	0
0.20	0.0333	619	480	240	70	169	71	0	5	0	0	8	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0250	0	0	533	240	240	240	0	11	109	66	52	13	102	6	0	0	0	7	1	0	2	1	7	3	83	0
0.05	0.0250	0	193	423	472	22	247	4	113	123	7	25	89	0	0	0	9	0	0	9	1	2	6	67	0	0	0
0.10	0.0250	0	383	406	245	245	2	83	160	2	76	5	0	0	19	1	8	0	6	2	53	0	0	0	0	0	0
0.15	0.0250	110	970	304	304	105	147	52	101	4	0	15	0	6	2	2	82	0	0	0	0	0	0	0	0	0	0
0.20	0.0250	645	520	260	210	50	108	0	12	1	3	89	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0167	0	0	624	277	277	277	0	12	124	88	51	13	108	16	0	0	0	5	0	3	7	0	8	3	116	1
0.05	0.0167	0	210	436	478	22	250	5	104	135	6	31	77	1	0	1	8	0	0	4	0	3	80	3	0	0	0
0.10	0.0167	0	434	426	261	261	3	100	156	5	97	1	0	0	12	0	3	1	3	109	0	0	0	0	0	0	0
0.15	0.0167	169	825	284	284	133	144	24	110	3	0	17	0	19	3	3	50	0	0	0	0	0	0	0	0	0	0
0.20	0.0167	872	242	245	238	68	51	11	1	1	2	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0083	0	0	561	245	245	245	0	3	141	55	46	2	126	14	1	0	0	10	0	0	1	0	2	6	83	2
0.05	0.0083	0	226	454	499	21	260	10	97	148	4	37	67	2	0	0	9	0	7	11	4	0	97	1	0	0	0
0.10	0.0083	0	413	339	233	233	18	87	127	1	98	1	0	3	6	0	7	0	8	66	0	0	0	0	0	0	0
0.15	0.0083	160	726	254	254	107	144	3	104	2	0	2	0	4	14	119	2	0	0	0	0	0	0	0	0	0	0
0.20	0.0083	863	490	98	142	89	18	14	2	8	1	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-5: Number of bubbles, N_b , at various bubble sizes, d_b , for air/Water at $H_s = 0.18$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
0.00	0.1458	0	114	532	287	287	287	0	153	19	113	2	19	119	12	0	0	4	0	3	4	4	3	20	33	0
0.05	0.1458	0	332	585	253	253	0	116	3	132	2	84	21	13	0	3	1	0	0	11	2	13	31	0	0	0
0.10	0.1458	0	459	345	249	249	8	134	107	9	124	9	0	0	1	5	0	2	26	14	0	0	0	0	0	0
0.15	0.1458	0	920	267	267	32	178	64	37	103	0	2	4	6	6	1	49	0	0	0	0	0	0	0	0	0
0.20	0.1458	438	674	242	137	105	21	111	0	2	4	3	23	7	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1250	0	112	496	265	265	265	0	166	8	89	3	33	116	16	0	0	2	0	2	6	2	1	17	20	0
0.05	0.1250	0	386	611	277	277	0	157	4	108	11	114	30	10	0	6	0	7	4	5	4	36	31	0	0	0
0.10	0.1250	0	541	338	273	273	21	151	100	3	155	14	0	0	3	4	3	0	8	16	0	0	0	0	0	0
0.15	0.1250	8	891	258	258	152	26	84	117	35	0	6	0	12	6	23	25	1	0	0	0	0	0	0	0	0
0.20	0.1250	525	607	248	160	88	35	122	1	1	7	1	16	21	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1042	0	112	510	276	276	276	0	156	4	114	3	27	121	2	1	2	2	0	5	16	2	12	3	75	0
0.05	0.1042	0	349	531	255	255	0	162	5	88	0	150	15	0	0	1	0	2	5	4	3	16	60	0	0	0
0.10	0.1042	0	546	249	249	249	162	8	78	17	140	4	0	2	0	6	5	1	20	50	0	0	0	0	0	0
0.15	0.1042	144	792	269	269	158	36	76	145	8	2	4	1	8	7	24	20	0	0	0	0	0	0	0	0	0
0.20	0.1042	800	634	317	217	100	209	3	2	1	15	23	54	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	104	456	246	246	246	0	157	6	82	3	33	117	5	0	0	0	0	11	2	5	3	9	57	0
0.05	0.0833	0	440	540	270	270	0	182	3	83	2	174	4	1	0	4	0	9	2	4	1	76	0	0	0	0
0.10	0.0833	0	776	350	340	345	223	24	97	55	159	3	0	2	0	18	12	5	18	91	0	0	0	0	0	0
0.15	0.0833	179	734	262	262	150	111	3	140	3	0	8	1	8	8	46	0	0	0	0	0	0	0	0	0	0
0.20	0.0833	699	538	269	269	10	166	0	4	7	4	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0750	0	92	450	242	242	242	0	160	12	68	3	30	116	12	0	0	3	0	7	0	1	4	14	20	0
0.05	0.0750	0	403	517	259	259	0	165	7	86	2	150	12	0	0	1	0	3	1	2	25	31	4	0	0	0
0.10	0.0750	0	535	238	238	238	149	20	68	16	124	8	0	0	1	17	1	1	23	21	0	0	0	0	0	0
0.15	0.0750	178	703	256	256	153	102	4	129	18	0	1	12	1	1	45	0	0	0	0	0	0	0	0	0	0
0.20	0.0750	861	241	246	231	20	138	0	2	16	17	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0667	0	97	488	260	260	260	0	138	5	114	4	16	107	11	0	0	1	0	14	1	9	2	7	27	0
0.05	0.0667	0	376	470	237	237	0	120	5	109	5	105	9	0	0	6	0	19	2	7	14	21	5	0	0	0
0.10	0.0667	0	520	239	233	236	109	40	86	12	90	1	0	3	0	23	8	2	27	0	0	0	0	0	0	0
0.15	0.0667	184	664	239	239	128	108	12	112	3	0	2	22	1	13	20	0	0	0	0	0	0	0	0	0	0
0.20	0.0667	905	514	179	77	173	5	4	1	5	34	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0583	0	91	479	259	259	259	0	124	9	117	9	29	81	9	1	0	7	0	19	1	2	15	7	52	0

Z,m	U_g, ms^{-1}	Bubble-size class																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
0.05	0.0583	0	383	509	257	257	0	161	3	93	6	146	7	0	0	4	0	10	2	2	23	24	0	0	0	0
0.10	0.0583	0	567	258	254	256	152	32	72	22	122	3	0	5	0	19	1	7	27	9	0	0	0	0	0	0
0.15	0.0583	211	753	274	274	172	102	13	147	7	0	3	23	0	24	28	0	0	0	0	0	0	0	0	0	0
0.20	0.0583	925	514	150	107	145	6	1	7	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0500	0	105	476	253	253	253	0	167	5	73	9	49	100	12	0	0	0	0	20	1	1	0	19	20	0
0.05	0.0500	0	412	512	258	257	0	129	1	118	14	118	4	0	0	3	0	19	9	3	8	54	0	0	0	0
0.10	0.0500	0	589	263	249	256	146	25	85	12	128	2	0	5	1	19	1	8	75	0	0	0	0	0	0	0
0.15	0.0500	226	664	254	254	145	104	13	125	1	2	3	24	1	11	23	0	0	0	0	0	0	0	0	0	0
0.20	0.0500	986	564	150	132	132	3	13	33	4	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0417	0	95	484	260	260	260	0	155	9	96	0	34	119	1	0	0	3	0	1	0	15	1	10	29	0
0.05	0.0417	0	512	650	327	327	0	193	6	125	25	167	3	0	0	4	0	2	11	6	25	33	1	0	0	0
0.10	0.0417	0	590	445	128	213	158	46	58	57	99	1	0	0	0	11	2	14	17	0	0	0	0	0	0	0
0.15	0.0417	300	542	498	0	175	74	144	25	0	1	1	20	2	41	1	0	0	0	0	0	0	0	0	0	0
0.20	0.0417	856	488	165	108	129	3	10	14	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0333	0	89	448	239	239	239	0	141	7	90	1	33	103	1	0	0	3	1	5	0	14	4	8	25	0
0.05	0.0333	0	390	514	260	260	0	182	2	76	2	170	7	0	0	1	0	9	12	7	4	22	0	0	0	0
0.10	0.0333	0	596	528	270	0	169	90	7	150	15	0	0	3	2	14	4	17	11	0	0	0	0	0	0	0
0.15	0.0333	394	510	514	0	182	75	165	5	0	7	5	10	23	28	0	0	0	0	0	0	0	0	0	0	0
0.20	0.0333	1231	267	261	169	12	4	12	10	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0250	0	105	498	271	271	271	0	164	6	97	4	51	108	0	0	0	3	6	11	3	9	4	4	31	0
0.05	0.0250	0	382	505	255	255	0	159	43	53	0	137	20	0	0	3	1	17	8	4	10	10	0	0	0	0
0.10	0.0250	0	649	580	290	0	199	84	7	189	4	0	0	5	15	9	4	3	36	0	0	0	0	0	0	0
0.15	0.0250	425	536	546	1	212	62	183	8	2	6	10	1	6	38	0	0	0	0	0	0	0	0	0	0	0
0.20	0.0250	939	394	80	153	2	15	11	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0167	0	94	449	238	238	238	0	155	5	66	12	31	124	0	0	0	3	2	11	1	9	1	3	30	0
0.05	0.0167	0	407	469	240	240	0	135	40	65	0	126	5	0	0	2	1	11	6	3	11	31	0	0	0	0
0.10	0.0167	0	555	496	248	0	151	92	7	142	1	0	3	0	7	12	0	54	0	0	0	0	0	0	0	0
0.15	0.0167	450	713	255	147	108	17	128	0	3	6	11	16	23	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0.0167	756	252	146	13	54	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0083	0	94	481	255	255	255	0	131	10	112	2	37	91	0	0	0	6	0	17	2	14	2	8	27	0
0.05	0.0083	0	391	487	248	248	0	117	76	55	7	92	11	0	0	2	1	19	12	6	9	31	0	0	0	0
0.10	0.0083	0	570	514	257	0	143	114	0	140	1	0	2	0	13	6	5	26	0	0	0	0	0	0	0	0
0.15	0.0083	595	482	241	145	96	137	4	0	6	18	7	38	0	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0.0083	522	132	19	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-6: Number of bubbles, N_b , at various bubble sizes, d_b , for air/Water at $H_s = 0.16$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0.00	0.1667	0	202	386	515	3	259	1	167	90	1	17	117	34	0	0	4	0	1	0	19	4	28	0
0.05	0.1667	0	408	488	255	255	0	172	83	0	30	131	5	1	4	0	6	2	11	21	28	6	0	0
0.10	0.1667	0	569	514	257	0	167	89	1	130	34	0	4	0	2	2	21	3	23	0	0	0	0	0
0.15	0.1667	262	643	490	32	174	84	83	91	1	11	1	9	10	32	3	0	0	0	0	0	0	0	0
0.20	0.1667	829	468	175	59	157	19	5	2	2	1	15	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1458	0	206	375	513	7	260	1	159	81	19	30	120	0	0	0	18	8	0	1	27	7	16	1
0.05	0.1458	0	439	478	261	261	0	185	60	17	84	86	3	1	9	7	7	4	7	15	31	4	0	0
0.10	0.1458	0	629	564	282	0	185	92	19	162	1	1	5	1	8	4	15	22	0	0	0	0	0	0
0.15	0.1458	390	498	498	9	165	82	152	5	2	9	8	4	18	16	0	0	0	0	0	0	0	0	0
0.20	0.1458	844	470	192	57	173	1	3	4	8	3	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1250	0	193	364	479	11	245	0	182	57	6	4	157	16	0	0	12	2	1	0	0	0	9	3
0.05	0.1250	0	430	471	256	256	0	157	96	3	115	34	1	1	11	6	5	5	8	15	19	0	0	0
0.10	0.1250	0	546	496	248	0	182	66	8	154	20	0	3	0	0	1	0	2	0	0	0	0	0	0
0.15	0.1250	409	711	251	182	60	18	159	6	22	0	4	10	18	0	0	0	0	0	0	0	0	0	0
0.20	0.1250	1134	458	56	200	9	4	5	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1042	0	190	361	483	11	247	1	197	44	5	7	183	6	0	0	5	0	0	5	2	2	27	1
0.05	0.1042	0	443	458	253	253	0	201	49	3	159	28	3	1	5	7	1	6	10	11	27	0	0	0
0.10	0.1042	0	689	618	309	1	245	63	1	235	2	0	22	7	0	2	12	18	0	0	0	0	0	0
0.15	0.1042	628	982	357	258	99	20	220	1	40	9	4	2	18	0	0	0	0	0	0	0	0	0	0
0.20	0.1042	928	427	78	171	11	2	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	173	366	473	1	237	8	178	48	3	27	146	7	0	0	12	0	0	0	1	0	13	6
0.05	0.0833	0	496	536	288	288	3	203	82	0	176	22	2	0	17	1	1	4	6	9	19	0	0	0
0.10	0.0833	0	849	265	265	8	176	81	16	159	4	0	8	0	2	8	12	27	0	0	0	0	0	0
0.15	0.0833	1029	815	407	309	98	242	60	0	14	3	1	19	14	0	0	0	0	0	0	0	0	0	0
0.20	0.0833	938	237	168	12	5	17	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0750	0	196	372	502	6	254	1	179	64	10	17	152	7	0	0	4	0	0	6	4	1	12	3
0.05	0.0750	0	442	474	255	256	0	180	73	3	147	31	0	0	3	1	0	6	8	6	15	0	0	0
0.10	0.0750	0	516	468	234	1	178	55	8	167	1	0	6	5	0	2	4	6	0	0	0	0	0	0
0.15	0.0750	412	732	253	200	53	20	174	0	9	0	5	10	8	0	0	0	0	0	0	0	0	0	0
0.20	0.0750	1101	449	47	204	6	4	7	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0667	0	181	339	472	4	238	2	190	44	2	11	160	14	0	0	9	3	1	2	6	2	16	1

Z, m	U_g, ms^{-1}	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0.05	0.0667	0	417	454	245	245	0	192	51	2	138	49	3	0	5	0	0	2	15	6	5	0	0	0
0.10	0.0667	0	608	540	270	1	212	57	14	194	0	0	10	0	3	9	2	12	0	0	0	0	0	0
0.15	0.0667	414	718	255	192	63	12	177	0	2	1	2	13	4	0	0	0	0	0	0	0	0	0	0
0.20	0.0667	1030	461	78	185	6	2	13	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0583	0	183	346	477	1	239	0	192	44	3	6	178	4	0	0	12	0	3	0	5	0	19	6
0.05	0.0583	0	426	451	243	243	5	191	37	14	166	18	1	0	13	0	1	0	8	5	16	0	0	0
0.10	0.0583	0	551	488	244	11	157	57	69	111	1	0	15	2	2	8	8	31	0	0	0	0	0	0
0.15	0.0583	452	653	246	199	44	54	147	0	7	3	7	3	11	0	0	0	0	0	0	0	0	0	0
0.20	0.0583	939	191	229	2	8	9	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0500	0	318	579	783	11	397	9	297	84	12	33	252	2	0	0	26	2	9	0	6	4	15	7
0.05	0.0500	0	415	444	239	241	4	198	36	4	186	13	0	0	5	1	4	0	5	5	11	0	0	0
0.10	0.0500	0	847	265	265	10	212	43	21	188	8	0	9	0	0	11	4	4	0	0	0	0	0	0
0.15	0.0500	623	490	245	190	52	180	12	0	5	0	8	4	2	0	0	0	0	0	0	0	0	0	0
0.20	0.0500	866	251	186	11	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0417	0	193	369	521	1	261	1	181	77	2	12	162	1	0	0	12	1	0	6	0	0	16	1
0.05	0.0417	0	432	473	256	256	3	188	64	2	176	5	0	0	12	1	1	1	4	4	11	0	0	0
0.10	0.0417	0	822	256	256	196	6	58	175	20	0	10	0	0	5	10	14	1	0	0	0	0	0	0
0.15	0.0417	846	680	340	290	50	263	21	15	5	2	6	11	0	0	0	0	0	0	0	0	0	0	0
0.20	0.0417	1101	385	10	10	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0333	0	212	389	531	9	270	2	182	78	9	17	159	2	0	0	10	0	0	2	2	3	38	3
0.05	0.0333	0	424	453	244	244	2	183	58	1	179	6	0	0	4	0	2	4	4	37	0	0	0	0
0.10	0.0333	55	758	252	252	175	0	78	169	3	0	2	0	0	0	12	5	0	0	0	0	0	0	0
0.15	0.0333	605	488	244	181	63	179	0	7	1	1	23	1	0	0	0	0	0	0	0	0	0	0	0
0.20	0.0333	454	2	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0250	0	188	345	471	9	240	6	175	58	1	22	154	1	0	0	4	2	0	1	2	1	18	1
0.05	0.0250	0	467	450	260	260	3	186	71	11	174	1	0	0	8	0	0	0	3	36	0	0	0	0
0.10	0.0250	103	685	245	245	159	82	4	152	1	0	13	1	0	5	6	19	0	0	0	0	0	0	0
0.15	0.0250	920	530	189	76	170	12	10	0	5	14	17	0	0	0	0	0	0	0	0	0	0	0	0
0.20	0.0250	0	216	467	531	4	268	1	175	90	2	14	161	0	0	0	7	0	0	4	0	5	29	0
0.00	0.0167	0	433	338	235	235	9	158	68	9	146	7	0	0	7	2	5	4	5	9	1	0	0	0
0.05	0.0167	179	691	248	248	185	61	7	176	0	0	6	4	2	10	17	0	0	0	0	0	0	0	0
0.10	0.0167	814	506	174	80	168	0	5	5	8	19	0	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0.0167	0	204	441	491	13	252	0	168	80	3	5	163	0	0	0	2	0	0	7	3	5	9	2
0.20	0.0167	0	787	612	390	390	19	270	98	14	276	1	0	0	3	0	2	1	15	36	0	0	0	0
0.00	0.0083	173	645	247	247	204	43	6	195	1	0	5	0	4	4	9	0	0	0	0	0	0	0	0
0.05	0.0083	919	510	225	43	210	3	1	2	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-7: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (0.1% w/w), at $H_s = 0.10$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g , ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0417	0	601	524	289	0	19	121	135	9	10	2	7	19	31	17	56	14	19	0	0	0	0	0	0	0	0
0.05	0.0417	384	528	506	9	191	61	19	8	4	32	51	57	15	16	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0625	0	614	534	291	0	27	85	166	5	18	6	19	40	12	23	17	18	7	0	0	0	0	0	0	0	0
0.05	0.0625	342	592	545	1	106	164	32	34	2	14	28	32	33	25	3	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	598	533	279	0	31	79	163	15	12	4	15	41	22	12	13	10	38	0	0	0	0	0	0	0	0
0.05	0.0833	257	663	270	270	88	174	33	46	3	12	23	26	16	10	39	0	0	0	0	0	0	0	0	0	0	0
0.15	0.0833	640	91	121	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1042	0	608	547	290	0	19	150	113	8	9	7	7	65	14	39	6	15	29	0	0	0	0	0	0	0	0
0.05	0.1042	216	682	267	267	28	237	6	20	4	8	30	18	8	14	25	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1042	752	259	45	25	62	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1250	0	552	490	263	0	26	88	143	8	8	2	11	20	7	12	29	10	50	0	0	0	0	0	0	0	0
0.05	0.1250	189	680	260	260	69	178	21	50	12	3	37	14	9	13	35	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1250	1194	236	155	39	22	40	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1458	0	598	530	270	0	8	185	79	2	0	5	3	7	8	59	43	7	106	0	0	0	0	0	0	0	0
0.05	0.1458	193	717	270	270	29	222	23	20	6	4	5	19	25	19	103	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1458	1027	296	253	24	7	14	124	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1667	0	612	540	279	0	14	142	118	9	0	11	1	4	9	59	18	4	139	0	0	0	0	0	0	0	0
0.05	0.1667	187	738	269	269	49	187	42	35	16	3	12	17	23	21	87	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1667	1119	272	244	26	11	10	66	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-8: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (0.1% w/w), at $H_s=0.15$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g , ms ⁻¹	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0417	0	267	528	248	247	1	15	13	74	151	7	3	3	2	12	12	10	18	47	6	17	49	0	0	0	0
0.05	0.0417	0	645	323	219	271	43	181	47	29	19	4	1	8	34	11	53	5	53	2	0	0	0	0	0	0	0
0.15	0.0417	1124	265	250	59	7	22	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0625	0	323	644	302	288	14	13	7	126	160	5	6	0	2	8	19	10	7	34	7	24	56	0	0	0	0
0.05	0.0625	0	607	274	237	256	34	112	104	16	31	6	2	2	29	7	27	5	23	42	0	0	0	0	0	0	0
0.15	0.0625	944	564	39	238	36	21	6	13	38	32	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	297	585	274	272	2	9	13	102	156	6	2	0	0	2	24	14	10	50	7	25	28	0	0	0	0
0.05	0.0833	0	667	282	282	282	33	72	169	20	22	13	1	4	25	9	15	4	13	50	0	0	0	0	0	0	0
0.15	0.0833	599	514	257	135	129	50	9	13	7	27	20	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1042	0	278	541	257	155	102	10	10	89	149	6	6	0	1	1	28	6	7	40	9	9	31	0	0	0	0
0.05	0.1042	0	494	427	276	276	27	93	140	30	24	26	1	1	11	13	9	4	6	33	16	0	0	0	0	0	0
0.15	0.1042	458	724	272	67	190	36	55	3	6	10	26	11	30	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1250	0	273	537	254	230	24	8	5	87	154	8	2	1	1	4	12	6	6	34	1	13	50	0	0	0	0
0.05	0.1250	0	475	453	277	277	20	53	189	20	24	34	1	2	12	14	17	3	3	33	17	0	0	0	0	0	0
0.15	0.1250	354	528	417	42	164	48	44	13	4	6	7	11	33	10	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1458	0	280	539	257	187	69	5	5	79	167	3	3	1	0	3	33	8	2	27	1	19	42	0	0	0	0
0.05	0.1458	0	440	457	266	266	22	74	151	25	34	49	1	0	7	16	6	5	0	39	14	0	0	0	0	0	0
0.15	0.1458	428	622	600	8	189	111	68	31	6	4	3	12	12	55	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1667	0	286	567	263	259	4	4	9	79	172	3	2	4	0	5	4	1	2	22	2	23	34	0	0	0	0
0.05	0.1667	0	477	544	300	300	19	85	169	32	31	58	2	1	1	18	8	0	2	24	24	0	0	0	0	0	0

Table A-9: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (0.1% w/w), at $H_s = 0.20$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0417	0	0	592	265	265	265	0	3	5	92	164	4	3	1	1	0	13	6	10	16	3	20	9	4	21	8
0.05	0.0417	0	205	432	389	135	262	6	18	218	21	7	12	3	0	6	2	10	10	18	10	7	52	16	0	0	0
0.15	0.0417	127	789	272	271	29	217	26	26	15	7	4	2	4	16	14	26	0	0	0	0	0	0	0	0	0	0
0.00	0.0625	0	0	564	253	253	253	0	7	22	91	133	7	6	8	5	3	11	3	34	2	5	3	12	9	14	8
0.05	0.0625	0	200	461	326	216	271	10	38	194	28	10	18	17	4	4	3	23	12	11	1	0	12	35	0	0	0
0.15	0.0625	0	740	611	306	11	36	255	16	23	5	10	6	10	10	26	15	48	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	0	593	265	265	265	0	7	18	94	146	1	8	11	2	5	2	9	23	8	2	2	2	5	30	10
0.05	0.0833	0	177	496	369	201	285	5	45	216	16	13	14	25	3	3	9	17	12	12	2	5	10	44	0	0	0
0.15	0.0833	0	670	562	281	0	103	153	40	46	35	3	15	9	2	11	12	19	17	0	0	0	0	0	0	0	0
0.00	0.1042	0	0	573	259	259	259	0	2	14	102	141	1	5	4	1	6	5	5	72	4	1	3	29	6	12	2
0.05	0.1042	0	162	460	306	208	257	0	57	169	24	12	18	30	10	4	3	7	14	12	1	6	8	21	1	0	0
0.15	0.1042	0	599	342	211	206	62	168	22	33	29	7	13	1	4	6	10	24	16	4	0	0	0	0	0	0	0
0.00	0.1250	0	0	545	247	247	247	0	7	24	99	116	2	8	9	6	0	3	3	29	17	1	7	25	21	39	18
0.05	0.1250	0	165	482	290	235	263	0	65	146	48	10	20	37	6	0	3	3	12	16	3	1	4	27	9	0	0
0.15	0.1250	0	665	314	251	283	79	139	57	32	56	31	1	3	12	4	6	38	19	23	0	0	0	0	0	0	0

Table A-10: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (0.5% w/w), at $H_s=0.10$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0417	0	563	506	255	0	28	41	191	14	5	4	8	20	8	28	114	10	10	0	0	0	0	0	0	0	0
0.05	0.0147	379	602	411	34	128	107	61	20	7	21	16	69	26	10	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0625	0	628	558	279	0	41	57	188	17	6	6	15	31	6	38	114	9	6	0	0	0	0	0	0	0	0
0.05	0.0625	335	612	546	0	152	112	61	57	16	18	14	13	25	28	2	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	580	526	266	0	37	57	172	11	14	3	14	22	20	19	66	16	12	0	0	0	0	0	0	0	0
0.05	0.0833	296	660	307	237	124	141	51	43	0	25	10	12	31	21	7	0	0	0	0	0	0	0	0	0	0	0
0.15	0.0833	168	82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1042	0	537	483	245	0	24	33	187	9	7	3	13	40	28	21	44	8	11	0	0	0	0	0	0	0	0
0.05	0.1042	234	650	260	260	121	127	43	60	6	11	23	24	25	16	12	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1042	630	226	21	75	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1250	0	546	484	244	0	30	51	166	12	12	1	15	26	18	17	53	13	12	0	0	0	0	0	0	0	0
0.05	0.1250	210	646	251	252	111	129	34	64	7	19	16	8	20	15	11	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1250	602	254	54	42	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1458	0	524	478	239	0	27	48	167	15	5	1	6	9	16	9	54	14	13	0	0	0	0	0	0	0	0
0.05	0.1458	210	698	261	262	106	135	50	66	6	4	11	14	16	15	30	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1458	964	179	161	16	14	77	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1667	0	541	494	249	0	29	53	167	7	13	3	27	16	9	13	22	6	7	0	0	0	0	0	0	0	0
0.05	0.1667	187	634	241	241	109	111	48	73	9	5	14	9	18	19	18	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1667	902	369	158	78	13	30	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-11: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (0.5% w/w), at $H_s=0.15$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0417	0	284	562	262	262	0	18	29	41	179	4	20	9	3	3	9	13	10	51	6	3	0	0	0	0	0
0.05	0.0417	0	663	447	93	270	89	95	86	40	55	7	4	4	14	11	27	4	19	12	0	0	0	0	0	0	0
0.15	0.0417	1004	231	216	91	25	9	38	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0625	0	274	527	252	247	4	19	29	48	160	5	9	5	15	28	18	16	12	68	5	2	8	0	0	0	0
0.05	0.0625	0	595	271	219	245	64	62	106	46	44	11	1	9	12	14	7	41	3	17	0	0	0	0	0	0	0
0.15	0.0625	862	505	42	174	69	54	16	10	38	22	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	273	524	247	247	0	20	29	51	153	5	4	7	19	39	24	15	20	46	5	4	4	0	0	0	0
0.05	0.0833	0	643	264	262	263	70	91	88	43	59	30	2	10	12	15	4	6	5	27	0	0	0	0	0	0	0
0.15	0.0833	671	552	276	165	123	100	16	6	3	24	25	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1042	0	516	407	267	268	67	64	109	53	56	35	1	4	12	11	15	4	10	30	1	0	0	0	0	0	0
0.15	0.1042	607	502	251	132	112	90	45	9	10	8	15	31	9	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1250	0	449	421	251	251	54	85	93	36	66	38	0	1	9	7	8	4	9	22	7	0	0	0	0	0	0
0.15	0.1250	420	697	256	99	110	85	93	5	4	3	8	18	37	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1458	0	417	401	254	255	8	40	52	157	9	18	13	7	20	22	31	32	8	17	7	0	0	0	0	0	0
0.15	0.1458	367	609	407	22	149	90	95	32	7	8	7	14	29	23	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1667	0	456	482	266	267	38	134	57	53	60	87	0	0	1	11	6	6	6	22	12	0	0	0	0	0	0
0.15	0.1667	409	591	523	10	179	89	99	75	2	3	2	11	18	29	0	0	0	0	0	0	0	0	0	0	0	0

Table A-12: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (0.5% w/w), at $H_s=0.20$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.05	0.0417	0	206	406	493	27	260	26	75	92	63	39	29	23	5	8	9	11	15	10	12	14	17	15	0	0	0
0.15	0.0417	173	702	262	262	98	115	73	66	23	8	4	9	8	14	23	6	0	0	0	0	0	0	0	0	0	0
0.05	0.0625	0	194	433	476	56	267	22	96	78	63	47	45	23	3	10	7	9	10	8	7	10	16	13	0	0	0
0.15	0.0625	0	947	275	275	55	96	113	59	61	10	10	6	5	15	19	32	5	0	0	0	0	0	0	0	0	0
0.05	0.0833	0	191	399	430	64	248	6	101	59	79	31	46	32	4	0	9	5	7	12	10	11	11	21	0	0	0
0.15	0.0833	0	677	571	286	5	144	116	63	72	21	3	3	2	5	18	19	34	0	0	0	0	0	0	0	0	0
0.05	0.1042	0	173	460	397	120	259	0	115	66	63	43	42	62	3	0	3	7	7	9	4	8	7	22	4	0	0
0.15	0.1042	0	646	472	147	182	141	80	50	63	84	7	2	4	4	7	12	14	26	3	0	0	0	0	0	0	0
0.05	0.1250	0	196	563	456	162	309	0	146	57	93	46	46	74	9	1	0	5	13	10	9	3	11	19	10	0	0
0.15	0.1250	0	788	434	214	324	130	90	93	70	105	28	2	2	2	5	11	15	27	21	0	0	0	0	0	0	0

Table A-13: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (1.0% w/w), at $H_s=0.10$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.05	0.0417	325	542	413	27	124	98	41	13	3	13	7	11	30	25	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.0625	322	518	511	8	103	147	46	28	8	6	9	15	15	21	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.0833	289	560	528	0	104	156	44	36	2	16	6	7	10	46	10	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1042	289	578	441	93	118	147	51	50	4	4	15	12	9	24	12	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1042	184	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1250	234	611	253	253	124	122	46	61	3	6	18	5	10	22	19	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1250	464	178	31	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1458	220	638	259	259	114	134	41	76	3	6	8	11	3	22	25	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1458	588	265	38	37	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1667	215	640	258	258	160	83	82	86	3	1	6	8	10	32	19	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1667	761	282	95	6	57	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-14: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (1.0% w/w), at $H_s=0.15$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

$Z, \text{ m}$	$U_g, \text{ ms}^{-1}$	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.05	0.0417	0	681	283	253	268	22	187	58	7	20	8	3	3	10	16	11	6	22	36	0	0	0	0	0	0	0
0.15	0.0417	831	478	28	212	19	5	8	14	23	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.0625	0	661	266	266	266	41	87	135	14	44	17	4	6	9	15	14	7	21	26	0	0	0	0	0	0	0
0.15	0.0625	714	566	283	152	138	41	19	8	2	25	39	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.0833	0	528	437	274	274	21	83	165	12	24	15	3	4	8	8	7	11	20	29	7	0	0	0	0	0	0
0.15	0.0833	617	537	256	43	211	16	29	2	2	2	14	19	16	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1042	0	440	435	249	249	40	89	115	14	44	18	3	7	6	7	5	5	13	25	6	0	0	0	0	0	0
0.15	0.1042	465	797	281	32	219	34	45	1	5	2	11	19	32	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1250	0	501	497	286	286	45	68	138	41	42	41	9	2	12	8	3	7	7	34	11	0	0	0	0	0	0
0.15	0.1250	466	739	374	69	192	37	81	8	3	3	6	27	40	0	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1458	0	428	436	248	248	35	71	130	15	46	41	0	0	4	7	8	4	6	18	14	0	0	0	0	0	0
0.15	0.1458	412	569	510	34	204	38	57	25	0	5	1	8	30	21	0	0	0	0	0	0	0	0	0	0	0	0
0.05	0.1667	0	450	493	268	268	6	75	169	27	21	26	1	0	9	1	3	1	2	37	12	0	0	0	0	0	0
0.15	0.1667	374	535	456	15	143	94	39	15	1	5	1	10	45	23	0	0	0	0	0	0	0	0	0	0	0	0

Table A-15: Number of bubbles, N_b , at various bubble sizes, d_b , for air/CMC solution in water (1.0% w/w), at $H_s=0.20$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.2	0.05	0.0417	0	220	466	360	178	269	1	0	268	0	0	0	1	17	19	4	16	5	45	5	6	55	11	0	0
0.2	0.15	0.0417	128	787	270	270	3	267	0	2	0	11	5	2	46	12	67	6	0	0	0	0	0	0	0	0	0
0.2	0.05	0.0625	0	200	450	317	209	263	1	25	224	11	9	13	6	0	1	5	13	19	4	20	6	9	41	0	0
0.2	0.15	0.0625	0	906	272	268	12	58	198	8	21	0	5	4	19	7	42	25	3	0	0	0	0	0	0	0	0
0.2	0.05	0.8333	0	236	559	369	280	325	0	6	316	3	0	1	5	0	2	7	26	8	3	25	9	9	46	0	0
0.2	0.15	0.8333	0	628	520	260	4	13	243	3	13	3	4	1	8	3	27	13	17	0	0	0	0	0	0	0	0
0.2	0.05	0.1042	0	198	454	326	219	273	0	43	223	7	7	22	12	2	1	6	13	3	6	12	8	9	15	0	0
0.2	0.15	0.1042	0	607	507	254	2	42	203	12	31	7	2	2	2	5	8	11	28	0	0	0	0	0	0	0	0
0.2	0.05	0.1250	0	167	452	306	202	254	0	36	201	16	4	24	11	1	4	0	4	7	5	11	4	10	35	0	0
0.2	0.15	0.1250	0	621	511	256	0	62	192	8	35	22	0	2	3	5	9	9	25	3	0	0	0	0	0	0	0
0.2	0.05	0.1458	0	181	459	319	215	267	0	50	203	12	7	24	24	2	1	3	3	7	3	2	15	10	23	5	0
0.2	0.15	0.1458	0	616	493	263	0	52	187	15	23	30	1	3	0	5	4	9	15	5	0	0	0	0	0	0	0
0.2	0.05	0.1667	0	165	464	313	205	259	0	85	159	14	10	47	35	0	1	3	6	6	4	5	8	9	17	2	0
0.2	0.15	0.1667	0	692	394	452	0	112	139	39	56	54	0	1	6	4	7	16	17	27	0	0	0	0	0	0	0

Table A-16: Number of bubbles, N_b , at various bubble sizes, d_b , for air/NaOH solution in water (0.1% w/w), $H_s=0.1$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0.00	0.0417	0	544	482	243	0	5	177	60	1	3	9	10	8	23	6	17	13	8	0
0.05	0.0417	371	529	472	4	22	227	5	6	8	13	20	8	21	20	0	0	0	0	0
0.00	0.0625	0	569	524	264	0	3	228	32	2	2	2	12	14	20	26	14	6	5	0
0.05	0.0625	245	657	260	260	7	253	0	7	5	6	28	13	29	13	6	0	0	0	0
0.15	0.0625	504	24	103	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	570	518	259	0	4	207	48	1	2	4	10	32	17	20	37	4	7	0
0.05	0.0833	170	717	257	257	2	254	1	2	2	9	23	20	23	37	11	0	0	0	0
0.15	0.0833	1175	265	259	6	6	26	45	21	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1042	0	527	473	237	0	2	184	51	1	2	2	9	9	18	12	17	4	0	0
0.05	0.1042	158	713	254	249	5	246	3	4	0	1	6	11	3	14	13	3	0	0	0
0.15	0.1042	996	574	15	272	16	14	14	30	11	18	0	0	0	0	0	0	0	0	0
0.00	0.1250	0	575	505	265	0	18	162	79	6	7	8	15	22	23	23	17	12	2	0
0.05	0.1250	129	707	244	244	25	210	10	21	9	1	9	34	12	15	17	5	0	0	0
0.15	0.1250	893	514	5	250	7	10	12	24	40	18	6	0	0	0	0	0	0	0	0
0.00	0.1458	0	648	576	306	0	7	184	103	4	5	1	6	30	9	27	9	10	2	0
0.05	0.1458	133	781	266	266	23	234	11	16	12	2	14	15	8	10	23	17	0	0	0
0.00	0.1667	0	650	562	317	0	3	271	19	2	2	17	22	18	29	56	18	18	11	0
0.05	0.1667	160	868	298	298	6	290	2	8	0	5	12	23	5	15	21	22	0	0	0
0.15	0.1667	649	534	267	266	1	5	3	3	11	36	22	5	0	0	0	0	0	0	0

Table A-17: Number of bubbles, N_b , at various bubble sizes, d_b , for air/NaOH solution in water (0.1% w/w), $H_s = 0.15$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	$U_g,$ ms^{-1}	Bubble-size class																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
0	0.0417	0	268	532	253	252	1	2	5	183	63	1	5	3	25	8	27	8	25	43	9	3	11
0.05	0.0417	0	687	356	218	287	8	275	3	4	6	7	32	14	20	17	16	15	10	30	0	0	0
0.15	0.0417	953	558	20	260	18	40	34	44	15	4	0	0	0	0	0	0	0	0	0	0	0	0
0	0.0625	0	293	585	274	274	0	5	3	197	69	4	2	1	17	20	6	29	13	74	6	7	0
0.05	0.0625	0	620	356	283	283	12	119	151	9	8	2	4	26	9	19	44	4	9	21	0	0	0
0.15	0.0625	612	507	254	34	221	12	2	34	17	46	16	18	0	0	0	0	0	0	0	0	0	0
0	0.0833	0	293	566	266	266	0	0	0	233	33	0	0	2	20	10	27	19	42	48	10	4	21
0.05	0.0833	0	544	524	313	313	1	10	302	0	6	4	3	8	24	21	27	12	11	40	9	0	0
0.15	0.0833	447	709	455	11	283	11	5	3	15	26	23	37	15	5	0	0	0	0	0	0	0	0
0	0.1042	0	286	573	267	52	214	2	0	243	21	2	0	2	14	17	24	16	5	65	6	7	23
0.05	0.1042	0	472	503	285	285	3	4	278	0	4	3	2	3	19	18	18	12	5	20	28	0	0
0.15	0.1042	242	671	264	264	2	262	1	1	2	20	9	33	40	12	10	0	0	0	0	0	0	0
0	0.1250	0	334	653	304	232	72	3	0	226	76	1	1	1	11	14	39	26	19	29	7	3	11
0.05	0.1250	0	472	530	292	292	1	15	274	3	8	6	1	4	6	16	9	12	6	10	36	0	0
0.15	0.1250	193	807	289	289	6	277	7	3	2	13	9	10	31	26	22	4	0	0	0	0	0	0
0	0.1458	0	281	551	259	209	50	1	1	206	51	2	0	0	9	14	29	11	6	88	19	3	7
0.05	0.1458	0	491	570	305	305	0	43	252	10	15	27	1	5	10	17	21	19	4	16	24	0	0
0.15	0.1458	141	889	302	302	19	270	14	17	3	7	14	12	22	20	10	31	0	0	0	0	0	0

Table A-18: Number of bubbles, N_b , at various bubble sizes, d_b , for air/NaOH solution in water (0.1% w/w), $H_s=0.20$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g , ms^{-1}	Bubble-size class																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
0	0.0417	0	0	544	242	242	242	0	0	1	188	53	0	0	1	1	3	4	1	84	13	14	17	15	8	2
0.05	0.0417	0	213	404	410	90	250	18	19	184	27	25	8	5	9	3	5	28	17	22	27	3	10	3	0	0
0.15	0.0417	164	744	262	262	27	228	11	17	11	12	7	8	19	55	6	3	0	0	0	0	0	0	0	0	0
0	0.0625	0	0	636	278	278	278	0	4	3	227	42	2	6	1	0	7	7	0	6	9	2	5	86	2	0
0.05	0.0625	0	203	504	372	194	283	1	11	262	8	3	6	4	2	3	2	40	6	12	7	35	17	10	0	0
0.15	0.0625	0	726	590	295	0	6	285	5	3	2	0	5	23	6	38	24	27	9	0	0	0	0	0	0	0
0	0.0833	0	0	632	285	285	285	0	2	1	207	74	3	1	0	0	8	2	1	46	29	9	18	31	7	6
0.05	0.0833	0	188	501	369	193	281	0	18	259	4	4	8	6	0	3	8	17	9	6	4	69	15	10	3	0
0.15	0.0833	0	624	299	205	252	12	190	50	8	7	1	1	9	36	6	20	44	6	7	0	0	0	0	0	0

Table A-19: Number of bubbles, N_b , at various bubble sizes, d_b , for air/NaOH solution in water (0.5% w/w), $H_s=0.10$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g , ms^{-1}	Bubble-size class																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
0	0.0417	0	601	489	306	0	15	13	237	3	8	9	1	26	11	10	28	16	3
0.05	0.0417	309	608	387	0	0	253	0	0	0	30	34	25	21	13	0	0	0	0
0	0.0625	0	578	461	291	0	26	31	194	13	10	5	1	26	10	15	21	4	22
0.05	0.0625	317	570	551	0	0	276	0	0	0	7	24	22	34	27	5	0	0	0
0	0.0833	0	628	486	327	0	50	54	168	24	26	4	7	18	12	9	6	1	8
0.05	0.0833	212	616	263	263	0	263	0	0	0	0	34	15	13	20	22	0	0	0
0.15	0.0833	920	324	76	55	60	1	0	0	0	0	0	0	0	0	0	0	0	0
0	0.1042	0	579	505	253	0	11	7	235	7	2	1	1	9	12	4	0	56	1
0.05	0.1042	157	605	239	239	0	3	236	0	2	0	9	12	3	5	16	1	0	0
0.15	0.1042	1104	270	211	101	14	18	24	16	0	0	0	0	0	0	0	0	0	0
0	0.1250	0	511	450	231	0	26	23	179	8	12	1	9	6	24	4	6	36	0
0.05	0.1250	71	771	262	262	2	0	260	2	0	0	4	16	2	9	55	6	0	0
0	0.1458	0	601	436	326	0	17	33	204	7	7	3	0	1	8	5	10	5	4
0.05	0.1458	0	781	242	242	1	2	239	0	2	0	1	7	10	10	14	28	2	0

Table A-20: Number of bubbles, N_b , at various bubble sizes, d_b , for air/NaOH solution in water (0.5% w/w), $H_5=0.15$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
0	0.0417	0	264	526	246	15	231	3	11	183	49	1	3	2	9	12	8	11	7	47	2	1	14
0.05	0.0417	0	621	301	199	250	6	227	14	6	4	3	12	29	12	9	4	15	20	2	0	0	0
0	0.0625	0	270	529	247	31	215	0	1	151	94	0	0	1	2	14	2	58	3	17	3	1	20
0.05	0.0625	0	633	262	261	262	1	80	180	2	2	1	2	16	10	10	15	3	11	25	0	0	0
0.15	0.0625	578	482	241	108	133	4	2	10	14	52	10	23	0	0	0	0	0	0	0	0	0	0
0	0.0833	0	268	529	250	74	176	0	0	138	112	0	0	0	2	2	3	23	8	17	3	0	19
0.05	0.0833	0	447	439	259	260	1	2	257	0	3	0	3	7	5	16	2	10	7	38	3	0	0
0.15	0.0833	372	696	259	5	244	1	5	0	16	9	24	11	30	0	0	0	0	0	0	0	0	0
0	0.1042	0	250	499	234	74	160	1	0	194	39	1	0	0	4	14	4	17	1	15	4	2	7
0.05	0.1042	0	387	436	235	236	0	3	232	1	2	1	2	4	14	15	8	5	1	6	13	0	0
0.15	0.1042	217	654	252	252	10	241	5	4	1	22	6	17	15	14	19	0	0	0	0	0	0	0
0.05	0.1250	0	262	516	243	144	99	0	0	197	46	0	0	1	3	19	5	10	5	6	0	7	6
0.15	0.1250	0	410	485	260	260	0	5	255	0	0	5	0	2	21	10	11	9	2	8	20	2	0

Table A-21: Number of bubbles, N_b , at various bubble sizes, d_b , for air/NaOH solution in water (1.0% w/w), $H_s=0.10$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

$Z, \text{ m}$	$U_g, \text{ ms}^{-1}$	Bubble-size class																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0.05	0.0417	0	822	241	241	2	230	9	0	3	0	6	3	10	19	12	12	4
0.15	0.0417	210	591	221	226	110	112	23	45	4	13	48	31	27	9	30	0	0
0.05	0.0625	434	115	53	60	0	0	0	0	0	0	0	0	0	0	0	0	0
0.15	0.0625	160	618	225	225	48	171	14	25	5	17	11	28	13	11	60	0	0
0.05	0.0833	1063	263	206	56	7	38	68	32	0	0	0	0	0	0	0	0	0
0.15	0.0833	160	647	227	227	35	182	10	31	2	4	8	13	12	64	29	1	0
0.05	0.1042	787	452	58	180	28	12	34	49	31	2	0	0	0	0	0	0	0
0.15	0.1042	125	654	225	225	22	187	19	19	6	3	16	10	11	6	24	63	0
0.05	0.1250	790	357	148	172	38	22	2	87	33	17	50	0	0	0	0	0	0
0.15	0.1250	83	685	227	226	31	192	4	18	14	1	5	20	16	5	25	74	0
0.05	0.1458	558	456	228	117	122	45	3	20	29	25	36	79	0	0	0	0	0
0.15	0.1458	77	696	226	226	35	182	13	22	10	1	9	51	7	12	23	47	0
0.05	0.1667	560	462	231	43	188	26	3	24	35	27	40	30	0	0	0	0	0
0.15	0.1667	42	732	224	224	20	195	9	10	11	0	12	28	53	20	16	33	0

Table A-22: Number of bubbles, N_b , at various bubble sizes, d_b , for air/NaOH solution in water (0.5% w/w), $H_s=0.15$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0.05	0.0417	573	458	229	56	172	29	12	6	33	25	8	78	0	0	0	0	0	0	0	0
0.15	0.0417	0	681	273	273	273	20	136	117	4	12	5	7	11	37	7	37	7	10	22	0
0.05	0.0625	597	508	254	177	90	26	1	9	39	50	9	11	0	0	0	0	0	0	0	0
0.15	0.0625	0	459	456	270	270	20	12	238	10	10	3	1	3	13	20	58	10	7	18	2
0.05	0.0833	375	569	425	18	224	14	18	2	2	7	43	24	11	5	0	0	0	0	0	0
0.15	0.0833	0	418	470	259	259	21	24	203	26	6	12	3	2	5	25	97	4	13	8	11
0.05	0.1042	219	668	264	264	33	231	14	15	0	3	15	52	23	10	7	0	0	0	0	0
0.15	0.1042	0	422	498	265	265	0	159	79	40	60	36	34	3	13	3	19	6	1	9	6

Table A-23: Number of bubbles, N_b , at various bubble sizes, d_b , for air/NaOH solution in water (1.0% w/w), $H_s=0.20$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0.05	0.0417	96	804	272	264	115	118	34	69	47	9	6	14	8	7	6	7	0	0	0	0	0	0	0
0.15	0.4167	0	181	418	420	78	250	58	53	135	4	47	32	6	4	6	1	21	3	70	12	16	13	40
0.05	0.6250	0	815	247	243	84	148	13	59	21	0	2	2	28	30	20	24	0	0	0	0	0	0	0
0.15	0.0625	0	180	501	322	232	279	0	107	165	7	27	50	16	4	3	10	4	4	42	3	29	30	18

Table A-24: Number of bubbles, N_b , at various bubble sizes, d_b , for air/EG solution in water (0.5% w/w), at $H_g = 0.10$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

$Z, \text{ m}$	$U_g, \text{ ms}^{-1}$	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0556	0	369	207	142	83	74	45	42	43	11	12	13	8	16	16	12	19	12	0	0	0	0	0	0	0	0
0.05	0.0556	336	168	168	167	4	31	80	20	20	14	17	19	21	21	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1111	0	391	230	138	101	62	45	56	33	23	6	12	11	15	10	15	24	10	0	0	0	0	0	0	0	0
0.05	0.1111	183	408	203	101	102	39	72	36	10	21	24	15	21	15	17	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1111	245	91	78	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1667	0	422	246	152	96	71	49	54	34	20	14	13	15	17	17	14	10	16	0	0	0	0	0	0	0	0
0.05	0.1667	149	432	206	119	80	59	58	36	10	11	12	14	18	30	28	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1667	509	177	96	32	47	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.2222	0	407	262	143	100	70	54	44	36	28	5	12	16	18	16	15	21	12	0	0	0	0	0	0	0	0
0.05	0.2222	113	414	206	120	73	51	54	45	9	8	8	15	24	22	22	0	0	0	0	0	0	0	0	0	0	0
0.15	0.2222	632	222	113	51	21	32	46	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1389	0	394	251	140	102	59	48	61	33	18	7	10	11	19	16	23	24	17	0	0	0	0	0	0	0	0
0.05	0.1389	156	392	192	115	70	55	52	34	8	13	23	15	27	18	12	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1389	407	158	50	60	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	415	236	141	97	66	52	37	49	17	15	8	12	11	17	18	18	21	0	0	0	0	0	0	0	0
0.05	0.0833	195	390	194	115	59	62	53	14	18	13	13	24	29	23	3	0	0	0	0	0	0	0	0	0	0	0

Table A-25: Number of bubbles, N_b , at various bubble sizes, d_b , for air/EG solution in water (0.5% w/w), at $H_s=0.15$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0556	0	178	280	182	110	87	62	37	45	36	30	27	7	2	8	10	10	12	11	20	20	14	0	0	0	0
0.05	0.0556	0	368	264	152	110	73	44	50	41	35	11	12	11	19	11	18	18	23	12	0	0	0	0	0	0	0
0.15	0.0556	591	287	143	86	68	22	20	25	52	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	191	316	187	121	90	69	36	48	47	33	17	5	11	9	18	13	11	21	13	9	23	0	0	0	0
0.05	0.0833	0	356	254	161	105	61	57	51	40	36	15	11	9	14	12	15	20	22	12	0	0	0	0	0	0	0
0.15	0.0833	435	316	164	80	82	44	15	18	24	25	30	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1111	0	196	317	187	125	90	73	40	47	37	48	15	9	8	6	14	8	9	24	22	17	25	0	0	0	0
0.05	0.1111	0	331	250	165	97	75	50	49	43	26	21	8	11	18	12	11	14	17	17	2	0	0	0	0	0	0
0.15	0.1111	379	347	176	94	73	68	17	12	12	31	31	38	2	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1389	0	180	293	174	121	81	54	45	45	31	35	17	12	5	4	8	14	12	21	14	14	16	0	0	0	0
0.05	0.1389	0	355	288	167	123	76	55	54	47	38	13	10	5	15	17	19	17	20	25	4	0	0	0	0	0	0
0.15	0.1389	369	347	171	105	70	62	28	15	20	22	22	25	8	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1667	0	168	262	154	113	75	51	39	41	34	29	21	6	4	9	14	7	6	16	19	16	8	0	0	0	0
0.05	0.1667	0	292	222	145	76	79	39	41	42	24	11	6	9	12	14	16	15	25	10	2	0	0	0	0	0	0
0.15	0.1667	270	313	155	87	60	57	31	9	13	9	22	27	21	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1944	0	178	301	171	111	94	47	47	39	33	38	25	5	7	8	11	6	13	19	14	12	16	0	0	0	0
0.05	0.1944	0	323	254	150	92	81	49	39	55	29	14	9	7	20	8	10	16	20	14	9	0	0	0	0	0	0
0.15	0.1944	327	365	184	113	70	65	42	11	18	17	23	32	19	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.2222	0	181	302	185	110	84	53	53	45	39	24	24	7	8	7	9	14	19	15	15	18	15	0	0	0	0
0.05	0.2222	0	324	270	163	116	70	51	61	39	31	18	9	9	13	14	25	18	13	13	8	0	0	0	0	0	0
0.15	0.2222	301	443	212	135	78	72	59	16	20	20	21	32	29	10	0	0	0	0	0	0	0	0	0	0	0	0

Table A-26: Number of bubbles, N_b , at various bubble sizes, d_b , for air/EG solution in water (0.5% w/w), at $H_s = 0.20$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0556	0	0	359	188	135	109	67	59	44	29	35	43	26	12	8	4	5	8	12	14	15	13	9	11	15	9
0.05	0.0556	0	162	310	178	121	84	72	42	36	38	45	27	9	6	11	9	4	16	10	11	14	21	6	0	0	0
0.15	0.0556	181	443	219	142	73	64	64	39	10	10	11	19	21	31	21	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	0	373	201	145	110	66	64	54	32	25	39	41	21	4	5	11	7	7	6	11	14	14	17	27	7
0.05	0.0833	0	147	333	197	128	99	71	45	45	41	38	28	13	9	10	9	9	15	12	15	12	23	13	0	0	0
0.15	0.0833	69	473	223	134	76	67	51	43	23	16	12	19	8	14	20	25	0	0	0	0	0	0	0	0	0	0
0.00	0.1111	0	0	368	212	138	101	84	54	49	38	41	23	38	19	5	4	12	10	10	9	15	12	13	14	11	8
0.05	0.1111	0	140	313	187	136	72	82	41	22	52	47	31	8	5	7	11	4	19	12	19	10	21	9	0	0	0
0.15	0.1111	68	488	232	141	94	64	51	50	29	16	7	17	19	31	19	14	0	0	0	0	0	0	0	0	0	0
0.00	0.1389	0	0	349	189	146	98	70	60	51	24	32	41	36	20	4	3	10	8	4	9	7	9	17	23	13	5
0.05	0.1389	0	168	345	205	141	100	74	56	43	48	39	33	13	6	9	8	18	18	10	14	13	23	15	0	0	0
0.15	0.1389	52	486	220	138	101	52	58	50	18	9	11	19	19	25	25	18	0	0	0	0	0	0	0	0	0	0
0.00	0.1667	0	0	428	251	173	110	87	78	47	43	44	39	40	17	8	14	6	11	11	17	11	11	12	19	18	7
0.05	0.1667	0	157	343	205	120	98	74	60	37	31	38	39	19	12	7	8	14	13	12	12	9	19	15	0	0	0
0.15	0.1667	0	571	269	146	112	62	62	49	32	14	13	19	22	18	21	31	4	0	0	0	0	0	0	0	0	0
0.00	0.1944	0	0	404	243	160	100	86	61	64	36	28	40	38	21	12	5	8	9	10	12	12	20	18	10	14	10
0.05	0.1944	0	144	369	217	130	118	64	62	47	40	39	46	14	4	5	13	8	9	17	16	16	24	24	0	0	0
0.15	0.1944	0	432	242	145	102	60	49	60	33	17	6	17	12	20	10	22	19	7	0	0	0	0	0	0	0	0
0.00	0.2222	0	0	393	209	152	105	80	59	42	40	37	39	36	19	8	7	8	6	11	8	14	14	20	19	18	4
0.05	0.2222	0	124	342	195	132	97	69	55	37	42	39	35	17	8	10	6	10	12	15	11	19	11	27	0	0	0
0.15	0.2222	0	474	269	164	102	86	43	58	50	22	16	12	14	13	24	16	20	12	0	0	0	0	0	0	0	0

Table A-27: Number of bubbles, N_b , at various bubble sizes, d_b , for air/EG solution in water (5.0% w/w), at $H_s = 0.10$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0556	0	366	257	148	69	95	38	49	45	23	10	13	13	13	16	20	22	19	0	0	0	0	0	0	0	0
0.05	0.0556	301	325	187	140	45	74	57	13	12	20	19	31	31	15	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	392	227	158	87	82	40	52	35	22	16	11	13	12	16	15	16	18	0	0	0	0	0	0	0	0
0.05	0.0833	200	401	190	118	76	48	69	20	11	14	12	19	29	25	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1111	0	383	196	171	39	139	20	55	62	26	6	11	4	12	21	12	14	20	0	0	0	0	0	0	0	0
0.05	0.1111	199	422	216	122	67	72	61	21	7	11	23	20	39	15	5	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1389	0	447	272	160	112	59	65	53	36	28	7	11	22	16	13	23	17	14	0	0	0	0	0	0	0	0
0.05	0.1389	169	383	186	89	101	42	64	33	10	11	19	16	21	21	9	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1389	553	196	73	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1667	0	383	211	152	59	94	35	42	41	18	12	15	16	7	12	12	17	19	0	0	0	0	0	0	0	0
0.05	0.1667	156	403	189	109	99	44	72	33	10	16	16	19	21	29	14	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1667	492	183	85	40	46	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1944	0	398	211	155	79	90	41	47	43	20	11	18	7	17	13	19	16	16	0	0	0	0	0	0	0	0
0.05	0.1944	127	412	207	120	81	55	57	37	11	17	14	15	12	19	26	0	0	0	0	0	0	0	0	0	0	0
0.15	0.1944	648	202	106	60	31	37	34	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.2222	0	389	243	131	100	64	47	44	47	11	15	14	5	11	13	19	22	18	0	0	0	0	0	0	0	0
0.05	0.2222	104	419	215	118	82	50	53	45	11	8	20	12	18	20	28	2	0	0	0	0	0	0	0	0	0	0
0.15	0.2222	662	234	112	83	21	25	38	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table A-28: Number of bubbles, N_b , at various bubble sizes, d_b , for air/EG solution in water (5.0% w/w), at $H_g = 0.15$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0556	0	183	282	181	111	75	67	45	28	40	46	19	10	7	8	12	10	10	14	10	19	13	0	0	0	0
0.05	0.0556	0	354	238	138	95	67	48	43	48	25	3	13	9	13	15	16	18	17	11	0	0	0	0	0	0	0
0.15	0.0556	629	240	120	87	36	23	22	33	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	187	307	175	120	75	69	47	32	37	33	32	10	5	12	12	5	12	14	18	16	14	0	0	0	0
0.05	0.0833	0	354	242	160	113	81	47	54	46	30	12	13	8	16	10	14	18	18	18	0	0	0	0	0	0	0
0.15	0.0833	432	312	146	77	75	52	12	16	16	26	34	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1111	0	172	281	162	121	73	57	47	38	37	28	18	4	12	6	16	10	16	11	13	18	11	0	0	0	0
0.05	0.1111	0	377	282	184	122	82	62	58	39	37	18	12	12	12	18	14	19	20	25	2	0	0	0	0	0	0
0.15	0.1111	373	343	169	95	73	61	22	18	14	18	28	28	1	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1389	0	193	312	180	116	92	58	45	50	41	32	25	9	4	9	12	11	9	15	19	15	20	0	0	0	0
0.05	0.1389	0	325	245	154	103	80	56	37	44	28	19	11	10	14	13	11	19	18	16	4	0	0	0	0	0	0
0.15	0.1389	291	367	177	112	59	68	44	12	14	17	20	29	18	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1667	0	219	358	204	148	113	68	48	55	42	41	26	12	9	7	12	16	18	21	17	15	16	0	0	0	0
0.05	0.1667	0	300	255	150	103	56	63	43	33	35	12	10	18	17	6	8	11	22	13	13	0	0	0	0	0	0
0.15	0.1667	253	356	178	108	57	71	37	8	13	17	19	22	27	8	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.1944	0	211	350	204	132	94	73	57	42	48	41	25	8	9	6	8	11	14	25	23	17	19	0	0	0	0
0.05	0.1944	0	320	255	156	98	78	57	36	39	40	16	7	13	9	8	14	18	16	25	9	0	0	0	0	0	0
0.15	0.1944	267	400	190	129	71	64	45	15	6	23	27	21	34	12	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.2222	0	178	289	176	110	84	59	45	40	33	35	15	15	8	14	6	10	10	15	18	10	16	0	0	0	0
0.05	0.2222	0	329	275	169	111	85	54	42	50	40	18	6	2	9	16	14	12	21	27	14	0	0	0	0	0	0
0.15	0.2222	230	359	183	111	72	56	53	15	11	15	15	22	28	20	0	0	0	0	0	0	0	0	0	0	0	0

Table A-29: Number of bubbles, N_b , at various bubble sizes, d_b , for air/EG solution in water (5.0% w/w), at $H_s=0.20$ m for various values of Z and U_g (For d_b corresponding to bubble-size class look into Table A-1).

Z, m	U_g, ms^{-1}	Bubble-size class																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0.00	0.0556	0	0	397	222	137	104	86	63	41	41	38	34	36	14	8	15	10	6	8	10	12	14	19	19	17	7
0.05	0.0556	0	141	307	173	120	100	50	64	32	29	40	23	13	8	6	12	7	9	12	13	11	21	15	0	0	0
0.15	0.0556	57	456	218	130	86	51	55	45	15	11	13	17	13	15	29	17	0	0	0	0	0	0	0	0	0	0
0.00	0.0833	0	0	338	187	127	107	53	65	40	34	36	31	22	18	10	8	7	13	6	10	14	7	17	10	8	3
0.05	0.0833	0	132	319	181	126	90	71	46	42	41	39	26	12	5	10	11	9	13	11	12	20	16	16	0	0	0
0.15	0.0833	0	516	243	153	99	57	60	54	25	15	9	16	18	15	23	18	4	0	0	0	0	0	0	0	0	0
0.00	0.1111	0	0	336	206	130	98	58	58	36	30	39	34	33	13	8	2	4	3	12	8	14	8	15	19	19	5
0.05	0.1111	0	119	311	182	129	84	74	34	39	47	28	23	17	5	6	11	9	7	13	19	16	13	17	0	0	0
0.15	0.1111	0	443	228	135	93	53	46	52	28	9	21	11	21	13	20	13	19	0	0	0	0	0	0	0	0	0
0.00	0.1389	0	0	349	198	134	79	74	48	48	29	34	34	28	13	5	5	8	7	11	10	12	18	14	10	18	7
0.05	0.1389	0	133	321	186	131	93	64	63	39	36	32	41	14	9	6	6	6	15	12	9	20	15	16	0	0	0
0.15	0.1389	0	440	248	156	114	75	57	48	40	20	7	15	16	15	16	16	19	14	0	0	0	0	0	0	0	0
0.00	0.1667	0	0	340	198	139	93	79	50	35	33	30	43	27	17	3	4	4	9	7	15	14	13	14	17	11	5
0.05	0.1667	0	126	355	198	135	101	66	63	40	37	45	30	20	12	6	7	12	11	13	11	17	17	18	3	0	0
0.15	0.1667	0	430	260	173	113	81	48	61	47	25	10	15	13	19	14	17	15	23	3	0	0	0	0	0	0	0
0.00	0.1944	0	0	339	207	142	81	85	45	48	30	38	25	26	17	8	7	11	12	14	7	7	8	16	13	7	9
0.05	0.1944	0	127	261	187	141	63	45	81	30	21	52	35	17	4	4	10	9	6	8	22	10	17	20	4	0	0
0.15	0.1944	0	384	246	164	93	77	50	35	38	48	9	5	10	12	15	13	14	19	12	0	0	0	0	0	0	0
0.00	0.2222	0	0	363	205	146	87	52	91	31	29	33	42	30	23	8	8	10	9	7	13	12	10	11	11	16	7
0.05	0.2222	0	96	317	174	115	88	65	52	29	37	40	27	21	10	6	8	7	8	10	10	14	19	15	6	0	0
0.15	0.2222	0	382	264	158	98	84	54	48	40	43	15	10	12	11	7	11	14	24	21	0	0	0	0	0	0	0