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LIST OF CONFERENCES/WORKSHOPS

1. ISMANAM-2019: I have presented one part of my work in poster presentation title was “Critically assessing alloy design criteria of metallic glasses”, at Chennai.
2. PMAI-2022: I have presented one part of my work in oral presentation; title was Preparation and characterization of Fe₄₈Cr₁₅Mo₁₄C₁₅B₆Y₂ alloy by Cu-mould casting and Mechanical alloying technique.
3. EMSI Workshop held in 2019 at IIT BHU, Varanasi.
4. A 3 days’ workshop on Material characterization held at NIT Hamirpur.

LIST OF PUBLICATION

1. S. Kumari, R.K. Mandal, Factors influencing the metallic glass formation in alloy systems, *J. Alloys Compd*,826(2020),154033.
2. S. Kumari, Aman Kumar Lal Das, R.K. Mandal, Indentation characteristics of glass/glass-nanocomposites in Fe-based alloys, *Materials Letters*,370(2024),136836.
3. S. Kumari, R.K. Mandal, Effect of Processing route on phase evolution and Indentation characteristics of Fe-based alloys (Under writing process).

ANNEXURE-I

Table 1: Various Parameters of Fe-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G ₁ /2	G ₂ /2
153	1	Fe80P13C7	1.47	0.881	1.6	1.81	1.56	
264	2	Fe78Si9B13	1.53-193	0.89-0.97	1.51	1.8-2.3	1.56	
269	1	Fe85P16Cu1	1.34	0.831	1.51	1.72		
445	1	Fe84B13Dy3	1.32	0.33	1.51	1.7	1.56	1.56
578	1	Fe85B10P5	1.3	0.91	1.51	1.73	1.56	
654	1	Fe77B18Zr5	1.38	0.432	1.95	1.76		
662	1	Fe77B18Ti5	1.51	0.553	1.78	1.82		
917	1	Fe72Nb2B14	1.24	0.536	1.74	1.78	1.56	
921	1	Fe86B7C7	1.56	0.897	1.6	1.85	1.56	1.53
27	1	Fe75P16B6Al3	1.64	0.59	1.74	1.87		
33	4	(FeNi)80P14B6	1-1.2	0.896-0.898	1.52	1.58-1.7	1.56	
34	1	Fe81B13.5Si3.5C2	1.43	0.876	1.6	1.78	1.56	1.53
35	1	Fe79B13Si5Mo3	1.56	0.467	1.66	1.84		
96	1	Fe66Mo6B18Zr10	1.71	0.467	1.95	1.83	1.56	1.56
154	9	Fe80P10C7B3	1.4-1.6	0.85-0.89	1.6	1.8-1.9	1.56	1.56
201	2	Fe68B23Y5Nb4	1.64-1.72	0.31-0.311	2.19	1.84-1.86	1.56	1.56
251	1	Fe50Ni30B13C7	1.17	0.83	1.61	1.7		
254	2	Fe72B20Si4Nb4	1.68	0.57-0.573	1.74	1.91	1.56	1.56
436	5	Fe77.5Si9B13Y0.5	1.53-1.6	0.29-0.31	2.19	1.82-1.84	1.79	1.79
263	5	Fe78Si8.75B13P0.25	1.5-1.9	0.88-0.96	1.51	1.82-1.92	1.56	
270	5	Fe85P15Si1Cu1	1.35-1.39	0.86-0.89	1.2	1.72-1.73	1.56	2.19
441	4	Fe84B9Si4Dy3	1.3-1.36	0.332-0.337	2.16	1.70-1.71	1.56	1.56
446	10	Fe85Si1.5B9Cu0.5P4	1.30-1.36	0.83-0.85	1.55	1.72-1.75	1.56	
452	1	Fe83.3Si4Cu0.7B12	1.36	0.831	1.55	1.76	1.56	
579	4	Fe84B10P5Nb1	1.34-1.50	0.59-0.61	1.74	1.74-1.8	1.56	1.56

584	1	Fe79.4P13C7Cu0.6	1.47	0.823	1.65	1.81	1.53	1.56
585	1	Fe79.4P13C7Nb0.6	1.5	0.586	1.85	1.82	1.56	1.56
926	4	Fe75Co5P13C7	1.07-1.37	[0.87-0.89]	1.61	1.63-1.77	1.56	
655	7	Fe77B18Ti1Zr4	1.42-1.48	0.42-0.43	1.95	1.77-1.91	1.56	1.56
688	9	(Fe0.76Dy0B0.24)96Nb4	1.62,1.75	0.29-0.56	2.16	1.85-1.9	1.56	
918	3	Fe71.5Nb2B14Cu0.5	1.24-1.25	0.51-0.52	2.16	1.78	1.56	1.56
922	3	Fe85.5B7C7Cu0.5	1.56	0.82-0.83	1.65	1.85	1.56	1.56
964	3	(Fe74Nb6B20)99Cr1	1.35-1.58	0.58-0.59	1.74	1.76-1.86	1.56	
967	1	Fe0.76Si0.096B0.084P0.06	1.57	0.897	1.51	1.85	1.56	
980	4	(Fe72Mo4B24)96Dy4	1.73-1.77	0.30-0.31	2.16	1.89-1.93	1.53	1.53
94	2	Fe45Ni21Mo6B18Zr10	1.50-1.55	0.46-0.47	1.95	1.78-1.84	1.56	1.56
111	4	Fe43Cr16Mo16C15B10	1.60-1.70	0.65-0.66	1.76	1.88-1.92	1.49	1.56
150	2	Fe52Co20B20Si4Nb4	0.96-1.28	0.57-0.58	1.74	1.581.74		
196	5	Fe65Co3B23Y5Nb4	1.5-1.7	0.31-0.32	2.19	1.79-1.86	1.56	
163	1	[(Fe0.5Co0.5)0.75B0.2Si0.05]96Zr4	0.82	0.422	1.95	1.48	1.79	1.82
245	1	Fe75Cr5P9B4C7	1.22	0.867	1.61	1.71	1.56	
252	2	Fe50Ni30B13C6B1	1.15-1.16	0.848-0.849	1.61	1.69-1.7	1.56	1.53
255	15	Fe72B20Si4Nb3.9Cu0.1	1.66-1.68	0.56-0.57	1.74	1.91	1.56	1.56
258	1	(Fe0.76Si0.09B0.1P0.05)99Nb1	1.6	0.588	1.74	1.86	1.56	1.56
281	5	(Fe0.9Ni0.1)72B20Si4Nb4	1.32-1.6	0.53-0.57	1.74	1.76-1.9	1.56	
286	1	Fe71Mo5P12C10B2	1.83	0.665	1.76	1.97	1.56	
304	6	Fe76.0C7.0Si3.3B5.0P8.7	0.71-1.6	0.71-0.90	1.6	1.53-1.87	1.53	
430	2	Fe61Co10Y8Nb1B20	1.40-1.44	0.31-0.34	2.19	1.7-1.76	1.56	
461	12	[(Fe0.5Ni0.5)0.78B0.21P0.01]97Nb3	1.08-1.16	0.5-0.59	1.76	1.65-1.7	1.56	1.56
586	1	Fe78.8P13C7Cu0.6Nb0.6	1.5	0.59	1.76	1.82	1.53	
604	1	Fe40Ni35P10C10B5	1.25	0.845	1.61	1.74		
605	1	Fe40Co35P10C10B5	0.9	0.839	1.61	1.56		
696	7	(Fe0.74Tb0.01B0.2Si0.05)96Nb4	1.71-1.85	0.30-0.34	2.17	1.88-1.91	1.53	1.53
704	5	(Fe0.9Co0.1)68Dy6B22Nb4	1.04-1.58	0.33-0.64	2.16	1.56-1.8	1.43	1.46
903	1	Fe61Co10Ti3Y6B20	1.41	0.327	2.19	1.72	1.59	
959	1	Fe77Mo3P12C4B4	1.69	0.684	1.76	1.89	1.56	

968	3	(Fe0.76Si0.096B0.084P0.06)98Mo2	1.66-1.84	0.68-0.69	1.66	1.88-1.94	1.56	
7	1	Fe72Al5Ga2P11C6B4	1.62	0.698	1.85	1.85	1.75	1.72
38	3	Fe61Co7Zr10Mo5W2B15	1.56-1.65	0.48-0.78	1.95	1.76-1.79	1.56	
39	1	Fe56Co7Ni7Zr8Nb2B20	1.31	0.447	1.95	1.7		
102	2	Fe61Co7Zr10Mo5W2Al15.5	1.57	0.57-0.58	1.29	1.66	1.53	1.05
103	2	Fe61Co7Zr10Mo5W2Si15.15	1.73	0.52-0.53	1.39	1.78	1.53	1.05
105	2	Fe61Co7Zr10Mo5W2P15.15	1.57-1.58	0.36-0.5	1.51	1.78-1.94	1.53	1.05
104	2	Fe61Co7Zr10Mo5W2C15.15	1.73-3.05	0.47-0.48	2.07	1.83-2.21	1.53	1.05
151	2	Fe52Co20B20Si4Nb4Cr1	1.12-1.22	0.66-0.59	1.74	1.65-1.71	1.56	
157	3	Fe25Co25Ni25(P0.4C0.4B0.2)25	0.82-0.85	0.83-0.85	1.61	1.51-1.53	1.56	1.53
195	2	Fe48Cr15Mo14C15B6Y2	1.11-1.56	0.30-0.31	2.33	1.63-1.82	1.72	
207	5	(Fe70Mn20Cr10)68Zr7Nb3B22	0.71-1.12	0.42-0.46	1.95	1.39-1.65		
208	1	(Fe69Mn26Cr5)68Zr10C3B19	0.64	0.468	1.95	1.32		
213	1	(Fe69Mn26Cr5)68Zr4Ti4B24	0.74	0.442	1.95	1.41		
259	4	(Fe0.76Si0.09B0.1P0.05)98.75Nb1Cu0.25	1.6	0.58-0.59	1.74	1.86	1.56	1.56
276	4	(Fe83.3Si4B8P4Cu0.7)99.75Al0.25	1.7	0.6-0.61	1.74	1.88		
287	2	(Fe0.9Ni0.1)71Mo5P12C10B2	1.68-1.75	0.66-0.67	1.76	1.9-1.93	1.56	1.72
305	3	Fe75.0C7.0Si3.3B5.0P8.7Ga1.0	1.6-1.7	0.67-0.68	1.74	1.88-1.90		
428	1	Fe61Co10Zr5W2Y2B20	1.36	0.316	2.19	1.72	1.53	1.53
434	1	Fe61Co8Zr3Y3Ni5B15	1.11	0.308	2.19	1.62	1.53	
447	5	Fe85Si1.4B9Cu0.5P4C0.1	1.3	0.83-0.84	1.65	1.72-1.73	1.56	1.56
606	1	Fe40Co20Ni15P10C10B5	1.05	0.837	1.65	1.64		
891	1	Fe60Co8Zr10Mo5W2B15	1.54	0.48	1.95	1.75	1.72	
960	1	Fe70Cr7Mo3P12C4B4	1.24	0.685	1.76	1.7	1.56	1.53
215	1	(Fe60Mn25Cr5Ni10)68Zr7Nb3B22	0.71	0.46	1.39	1.37	1.79	1.79
244	1	Fe41Co7Cr15Mo14C15B6Y2	1.42	0.305	1.76	1.77	1.46	
247	3	Fe45Cr20Mo10W2C15B6Y2	1.31-1.34	0.30-0.33	2.33	1.72-1.75	1.56	1.56
425	1	Fe61Co10Zr2.5Hf2.5Nb2W2B2	1.12	0.234	1.45	1.63		
426	2	Fe61Co10Zr3Hf2W2Y2B20	1.40-1.41	0.255	2.19	1.71	1.66	1.59
433	1	Fe61Co8Zr4Y2Ni5Nb5B15	1.35	0.305	2.19	1.74	1.72	

633	1	Fe71.2C7.0Si3.3B5.5P8.7Cr2.3Al2.0	1.51	0.572	1.74	1.84	1.56	1.46
904	1	Fe0.61Co0.10Zr0.025Hf0.025Ti0.02W0.02B0.20	1.44	0.245	1.95	1.75	1.56	
908	1	(Fe41Co7Cr15Mo14Y2C15)94B6	1.34	0.287	2.33	1.77	1.72	1.79
961	3	Fe62Ni8Cr7Mo3P12C4B4	1-1.2	0.68-0.69	1.76	1.61-1.66	1.56	1.53

Table 2: Various Parameters of Cu-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V_R range	R_R	K_F range	$G_1/2$	$G_2/2$
93	22	Cu54.5Mg9.1Ca36.4	1.45-3.94	0.29-0.62	1.55	1.68-2.06	1.23[238]	
175	19	(Cu0.5Zr0.5)98Al2	1.28-1.42	0.71-0.75	1.25	1.42-1.76	1.39[239]	
181	2	Cu45Zr45Ag10	1.6-1.68	0.75	1.25	1.53-1.56	1.39[240]	1.39[240]
738	4	Cu60Zr30Ti10	1.42-1.53	0.68-0.75	1.25	1.49-1.53	1.72[241]	
31	9	Cu48Ti34Zr10Ni8	1.3-2.0	0.63-0.75	1.28	1.43-1.75	1.39[242]	1.39[242]
857	6	Cu55Ag5Zr30Ti10	1.67-2.81	0.69-0.75	1.25	1.59-1.94	1.72[243]	
527	1	Cu50Zr45Gd5	1.32	0.54	1.25	1.42	1.46[244]	1.46[244]
204	4	Cu60Zr20Hf20Ti10	2.1-2.68	0.73-0.77	1.25	1.69-1.84	1.39[245]	1.39[245]
300	5	(Cu47.5Zr47.5Al5)99V1	1.34-1.7	0.73-0.75	1.25	1.44-1.57	1.39[246]	
518	4	Cu43Zr43Al7Ag7	1.42-1.68	0.75-0.77	1.25	1.46-1.55	1.35[247]	
519	3	Cu46Zr45Al7Gd2	1.4-1.48	0.54-0.55	1.41	1.46-1.47	1.33[248]	1.33[248]
529	23	Cu46Zr45Y2Al7	1.32-2	0.5-0.63	1.41	1.41-1.5	1.33[249]	1.33[249]
557	11	Cu47.2Zr46.5Al5.5Nb0.8	1.3-1.53	0.72-0.75	1.25	1.43-1.52	1.33[250]	
739	1	(Cu0.6Zr0.3Ti0.1)95Nb5	1.62	0.68	1.25	1.59	1.39[251]	
743	3	Cu50.2Zr40.5Ti8.5Mo0.5	1.47-1.5	0.72-0.73	1.25	1.5-1.52	3.03[252]	3.03[252]
751	3	Cu47.5Zr47Al5Co0.5	1.28-1.32	0.75	1.28	1.42-1.44	0.62[247]	
767	4	(Cu47Zr45Al8)99Lu 1	1.4-1.44	0.59-0.6	1.41	1.46-1.47	1.39[253]	
775	4	(Cu47Zr45Al8)99Dy1	1.4-1.44	0.55-0.57	1.25	1.46-1.47	1.39[253]	
778	1	Cu45Zr48Al4Ga3	1.4	0.75	1.25	1.54	1.39[250]	
783	1	Cu47.7Zr48Al4Co0.3	1.31	0.75	1.28	1.43	1.39[250]	
784	1	Cu47.5Zr48Al4Cr0.5	1.3	0.75	1.28	1.43	1.39[250]	
785	1	Cu47.5Zr48Al4Fe0.5	1.3	0.75	1.29	1.43	1.39[250]	
786	1	Cu47.7Zr48Al4Mo0.3	1.33	0.75	1.25	1.44	1.39[250]	
787	1	Cu47.7Zr48Al4W0.3	1.33	0.75	1.25	1.44	1.39[250]	
947	4	(Cu50Zr43Al7)Ge1	1.35-1.5	0.73-0.75	1.29	1.45-1.51		1.36[254]
994	4	(Cu50Zr43Al7)99.5Si0.5	1.36-1.4	0.73	1.39	1.46-1.48	1.36	
755	1	Cu46.25Zr46.25Al5Ag2Co0.5	1.41	0.75	1.28	1.66	1.26[247]	1.19[247]
866	4	Cu47Ti33Zr9Nb2Ni8Si1	2.06-2.27	0.5-0.51	1.39	1.92-2	1.39[255]	

873	4	Cu47Ti33Zr11(Ni6Sn2)Si1	2-2.03	0.59-0.63	1.4	1.73-1.76	1.43[256]	1.43[256]
877	1	Cu47(Ti31Sn2)Y11Ni8Si1	2.12	0.69	1.56	1.73	1.43[256]	1.43[256]
878	1	Cu47(Ti16Y15Sn2)Zr11Ni8Si1	1.8	0.52	1.56	1.59	1.43[256]	1.43[256]
651	1	Cu45Zr45Al5Ni5	1.24	0.78	1.25	1.39	1.63[257]	1.56[257]
202	3	Cu56Zr44	1.22-1.25	0.72-0.75	1.25	1.39-1.49	1.56[258]	1.56[258]

Table 3: Various Parameters of Zr-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G _{1/2}	G _{2/2}
44	2	Zr60Al15Ni25	1.35-1.5	0.8-0.82	1.28	1.4-1.47	1.33[259]	1.22[259]
587	1	Zr66.7Ni33.3	1	0.82	1.28	1.27	1.33[260]	
138	7	Zr0.606Cu0.29Al0.104	1.35-2.83	0.75-0.83	1.25	1.33-1.79	1.29[261]	1.29[261]
355	5	Zr54Al17Co29	0.96-1.2	0.79-0.81	1.28	1.26-1.35	1.33[262]	
588	2	Zr65.7Ni33.3Si1	1.02-1.07	0.80-0.82	1.39	1.28-1.31	1.29[263]	1.22[263]
590	2	Zr65.7Ni33.3Pd1	1.03-1.13	0.81-0.82	1.28	1.29-1.33	1.29[263]	
592	2	Zr65.7Ni33.3La1	1.01-1.04	0.83-0.84	1.51	1.27	1.29[263]	
230	8	B30Fe16.8Zr53.2	0.85-1.5	0.50-0.81	1.95	1.21-1.71		
1	9	Zr65Al7.5Ni10Cu17.5	1.31-1.55	0.8-0.86	1.28	1.12-1.46	1.26[264]	
164	26	Zr48Cu36Al8Ag8	1.67-3.4	0.75-0.82	1.25	1.11-1.94	1.33[144]	1.19[144]
190	7	Zr48Cu47.9Al4Fe0.1	1.17-3.5	0.75-0.84	1.29	1.33-1.98	1.33[265]	
523	4	Zr54Gd2Co28Al16	1.07-1.26	0.57-0.61	1.44	1.3-1.34	1.08[266]	
638	3	(Zr46Cu46Al8)99Co1	1.3-1.36	0.74-0.75	1.28	1.44-1.45	1.39[267]	
677	5	Zr54Co28Al16Y2	1.07-1.22	0.57-0.83	1.44	1.3-1.36	1.26[268]	1.39[268]
191	1	Zr48Cu47.5Al4Mo0.5	3.51	0.75	1.25	1.99	1.36[269]	
192	2	(Zr55Cu30Al10)99Nb1.0	1.41-1.46	0.77-0.78	1.25	1.45-1.46	1.39[270]	
352	1	Zr61Ti2Cu25Al12	1.6	0.84	1.25	1.47	1.36[271]	
358	5	(Zr54Al17Co29)99Ta1	1.06-1.14	0.79-0.8	1.28	1.31-1.34	1.33[262]	
8	5	Zr41.2Ti13.8Cu12.5Ni10Be22.5	1.48-2.32	0.70-0.76	1.42	1.48-1.76	1.36	
19	2	Zr52.5Ti5Al10Cu17.9Ni14.6	1.46-1.52	0.79-0.81	1.28	1.46-1.47	1.39[272]	
20	1	Zr57Nb5Al10Cu15.4Ni12.6	1.56	0.81	1.28	1.48	1.39[139]	
182	3	Zr36.6Ti31.4Nb7Cu5.9Be19.1	2.86-2.92	0.73-0.78	1.42	1.84-0.87	1.33[273]	
347	1	Zr60.14Cu22.31Fe4.85Al9.7Ag3	1.48	0.83	1.42	1.44	1.39[274]	1.39[274]
393	13	Zr69Cu12.5Ni10Al17.5Ag1	1.44-2.04	0.64-0.86	1.28	1.41-1.63	1.33[275]	1.33[275]
556	1	Zr62Cu18Ni10.4Al8Fe1.6	1.31	0.79	1.29	1.41	1.33[276]	
887	4	Zr63Ti2Cu17.5Fe10Al17.5	1.22-1.37	0.82-0.83	1.29	1.35-1.41	1.26[277]	1.33[277]
939	2	Zr45Nb10Cu13Ni10Be22	1.62-1.74	0.71-0.73	1.42	1.55-1.6	1.33[278]	1.29[278]
941	1	Zr48Nb8Cu12Be24Fe8	1.56	0.72	1.42	1.54	1.33[278]	1.29[278]
985	2	Zr46Cu31.64Ag8.36Al8Be6	1.83-1.87	0.75-0.76	1.42	1.59-1.61	1.33[144]	1.36[144]

937	1	Zr37Al10Ti12.5Cu11.25Ni9Be20.25	1.87	0.706	1.42	1.64	1.22[279]	
940	2	Zr45Nb8Cu13Ni4Be22Fe8	1.48-1.58	0.70-0.71	1.42	1.52-1.55	1.33[278]	1.29[278]
945	1	Zr41Ti14Cu12.5Ni10Be22.5C1	1.8	0.71	2.07	1.71	1.39[280]	1.43[280]
946	1	Zr34Ti15Cu10Ni11Be28Y2	1.83	0.48	1.59	1.74	1.39[146]	1.43[146]
543	4	La5.3Zr51.6Cu7.2Ni20.6Al15.4	1.23-1.72	0.51-0.53	1.51	1.36-1.5	2.37[281]	

Table 4: Various Parameters of Ti-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G ₁ /2	G ₂ /2
145	1	Ti50Cu45Ni5	2.45	0.83	1.17	1.87	1.43[282]	1.43[282]
146	1	Ti50Cu45Co5	2.4	0.83	1.18	1.86	1.39[283]	
147	1	Ti50Cu45Fe5	2.35	0.83	1.17	1.84	1.39[283]	
148	1	Ti50Cu45Si5	2.65	0.82	1.26	1.92	1.39[283]	
10	1	Ti50Ni20Cu25Sn5	2.35	0.63	1.3	1.82	1.43[284]	1.43[284]
12	3	Ti34Zr11Cu47Ni8	2-2.28	0.64-0.65	1.28	1.73-1.8	1.43[285]	1.46[285]
87	4	Ti41Zr25Be32Ag2	2.76-2.98	0.69-0.71	1.42	1.89-1.92	1.36[286]	
91	1	Ti41Zr25 Be28Fe6	2.45	0.69	1.42	1.82	1.33[287]	
366	11	Ti41Zr25Be32Ni2	2.5-2.76	0.67-0.69	1.42	1.83-1.9	1.36[288]	
407	9	Ti41Zr25Be32Cu2	2.61-2.78	0.56-0.69	1.42	1.86-1.98	1.36[289]	
506	3	(Ti0.4Zr0.1Cu0.34Pd0.14)100	2.85-3.0	0.66-0.67	1.28	1.95-1.96	1.43[140]	1.43[140]
562	1	Ti50Ni15Cu32Sn3	2.45	0.62	1.28	1.86	1.43[290]	1.43[290]
566	1	Ti41Zr25Be29Al5	2.74	0.7	1.42	1.88	1.33[291]	
988	1	Ti61.66Zr26.55Nb10.07Cu1.72	3.38	0.81	1.25	1.91		
9	10	Ti40Zr25Ni8Cu9Be18	2.3-2.76	0.66-0.72	1.42	1.77-1.86	1.33[292]	1.33[292]
11	1	Ti52Cu23Ni11Mo7Fe7	2.6	0.64	1.18	1.9	1.43[293]	
92	9	(Ti41Zr25Be28Fe6)93Cu7	2.16-2.42	0.65-0.68	1.42	1.76-1.81	1.36[294]	
406	4	Ti43.15Zr9.59Cu36.24Ni9.06Sn1.96	2.28-2.3	0.63-0.65	1.39	1.79-1.81	1.43[295]	1.43[295]
423	1	Ti20Zr20Hf20Be20Ni20	2.3	0.71	1.42	1.76	1.36[296]	
493	5	Ti29.44Cu46.72Ni7.88Zr7.6Hf8.4	2.1-2.19	0.65-0.66	1.28	1.76-1.95	1.43[297]	1.43[297]
354	8	Ti16.7Zr16.7Hf16.7Cu16.7Ni16.7Be16.7	2.08-2.47	0.67-0.71	1.42	1.73-1.8	1.59[296]	
499	3	(Ti0.425Cu0.425Ni0.075Zr0.075)99.5Si0.5	2.24-2.27	0.64-0.65	1.39	1.8-1.81	1.46[285]	1.46[285]
507	5	(Ti0.4Zr0.1Cu0.34Pd0.14)98Co2	2.53-2.85	0.64-0.66	1.28	1.87-1.94	1.43[298]	1.43[298]
515	3	(Ti40Zr10Cu38Pd12)98Nb2	2.9-2.93	0.67	1.28	1.94	1.43	
559	3	Ti40Zr10Cu34Pd14Sn2	2.97-3.0	0.67-0.68	1.26	1.92-1.94	1.43[299]	1.33[299]
567	5	(Ti41Zr25Be29Al5)98Cu2	2.42-2.71	0.67-0.69	1.42	1.81-1.87	1.33[291]	1.39[291]
577	1	Ti38.8Zr28.8Cu6.2Be16.2Nb10	2.87	0.74	1.42	1.87		
650	1	Ti47.5Zr33Cu5.8Co3Be12.5	2.67	0.78	1.42	1.79		
721	3	Ti41Cu36Zr10Pd12Ni1	2.75-2.87	0.67	1.25	1.9-1.93	1.39[140]	

724	4	Ti41Cu36Zr10Pd12Pt1	3	0.67	1.25	1.9-1.96	1.39[140]	1.49[140]
989	4	Ti60.06Zr26.15Nb10.62Cu1.88Sn1.29	3.34-3.37	0.79	1.26	1.9-1.91		
564	1	Ti45Ni15Cu25Sn3Be7Zr5	2.32	0.62	1.43	1.82	1.43[292]	1.46[292]
573	2	(Ti32.8Zr30.2Cu9Ni5.3Be22.7)0.95Nb5	2.44-2.57	0.71	1.42	1.85-1.89	1.29[300]	1.29[300]
575	2	(Ti32.8Zr30.2Cu9Fe5.3Be22.7)0.95Nb5	2.34	0.71	1.42	1.77	1.29[300]	1.29[300]
488	1	Ti41.5Zr2.5Hf5Cu42.5Ni7.5Si1	2.36	0.64	1.42	1.84	1.43[301]	1.43[301]
746	1	Ti45Zr25Nb6Sn2Cu5Be17	3	0.71	1.43	1.89	1.86[302]	1.31[302]
747	1	Ti45Zr25Nb6Sn2Ni5Be17	2.85	0.71	1.43	1.87	1.86[302]	1.31[302]
748	1	Ti45Zr25Nb6Sn2Co5Be17	2.8	0.71	1.43	1.86	1.86[302]	1.31[302]
749	1	Ti45Zr25Nb6Sn2Fe5Be17	2.75	0.71	1.43	1.85	1.86[302]	1.31[302]
346	1	Ti47Cu38Zr7.5Fe2.5Sn2Si1Ag2	2.51	0.65	1.26	1.84	1.39[303]	
348	4	Ti46Cu40Zr7.5Fe2.5Sn2Si1Sc1	2.38-2.41	0.64-0.65	1.4	1.82	1.39[304]	
489	4	Ti41.5Zr2.5Hf5Cu41.5Ni7.5Si1Sn1	2.37-2.43	0.61-0.66	1.4	1.82-1.94	1.43[305]	

Table 5: Various Parameters of La-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G ₁ /2	G ₂ /2
46	3	La55Al25Ni20	1.95-2.4	0.58	1.51	1.49-1.52	1.12[306]	
713	2	La55Al25Cu20	2.52-2.6	0.72-0.76	1.47	1.52-1.55		
47	4	La55Al25Ni10Cu10	2.45-2.55	0.72-0.78	1.51	1.49-1.55		
166	1	(La0.5Ce0.5)65Al10Co25	2.06	0.75	1.5	1.42	1.12[307]	
167	1	(La0.5Ce0.5)65Al10Cu25	2.56	0.75	1.47	1.53	1.12[307]	
541	3	La27.5Zr27.5Ni20Al25	1.55-2.45	0.55-0.61	1.51	1.46-1.56	1.23[281]	
542	3	La27.5Zr27.5Cu25Al20	1.83-2.1	0.52-0.72	1.47	1.52-1.54	1.23[281]	
813	7	La62Al14Cu20Ag4	2.61-2.88	0.75-0.83	1.47	1.52-1.58	1.12[308]	
165	1	(La0.5Ce0.5)65Al10(Co0.6Cu0.4)25	2.72	0.6	1.5	1.56	1.12[307]	
537	8	La27.5Zr27.5Cu15Ni15Al15	1.63-2.3	0.59-0.69	1.51	1.4-1.54	1.23[281]	
714	1	La55Al25Ni5Cu10Co5	2.45	0.72	1.5	1.53	1.12[309]	
830	1	La32Ce32Al16Ni5Cu15	2.61	0.74	1.5	1.54		
814	10	La62Al14(Cu5/6Ag1/6)20(Ni1/2Co1/2)4	2.37-2.61	0.74-0.79	1.51	1.46-1.53	1.12[309]	
831	5	La32Ce32Al16Ni5Cu12Co3	2.37-2.55	0.74	1.51	1.49-1.53	1.19[310]	
238	8	La62Al14Cu22Co2	2.04-2.44	0.75	1.5	1.41-1.5	1.09[311]	

Table 6: Various Parameters of Mg-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G ₁ /2	G ₂ /2
22	1	Mg70Ni20Y10	1.7	0.66	1.44	1.45		
78	2	Mg61Cu28Gd11	1.83-1.85	0.64	1.41	1.5-1.51	1.23[137]	1.39[137]
484	2	Mg60Cu30Y10	1.8-2.12	0.63-0.64	1.41	1.5-1.57	1.26[312]	
3	1	Mg65Cu25Y5Gd5	1.85	0.64	1.41	1.5	1.23[313]	

5	3	Mg65Cu15Y10Ag10	2.07-2.76	0.48-0.68	1.41	1.55-1.69	1.26	
663	1	Mg65Cu25Tb10	2	0.66	1.39	1.55	1.26[314]	
72	1	Mg50Al22.5Ga22.5Ca5	2.57	0.48	1.42	1.69		
79	5	(Mg61Cu28Gd11)98Cd2	1.84-2	0.63-0.64	1.41	1.51-1.55	1.33[137]	1.39[137]
81	3	Mg62Zn3Cu25Gd10	1.81-2.05	0.63-0.65	1.41	1.49-1.57	1.26[315]	1.26[315]
84	3	Mg56Li9Cu25Y10	1.66-1.76	0.63-0.64	1.41	1.46-1.48	1.26[316]	1.39[316]
330	2	Mg65Cu20Ag5Gd10	2.07-2.3	0.65-0.66	1.41	1.55-1.6		1.26[312]
485	3	Mg60Cu29Y10Si1	1.83	0.63	1.56	1.51-1.52	1.33[317]	1.33[317]
664	4	Mg65Cu22.5Ag2.5Tb10	2.01-2.35	0.67-0.68	1.39	1.54-1.62	1.26[318]	
668	1	Mg63Be2Cu25Tb10	2	0.65	1.58	1.55		
669	1	Mg65Cu20Zn5Tb10	2.07	0.67	1.39	1.56		
836	3	(Mg65Cu25Gd10)99Ca1	1.85	0.49-0.51	1.55	1.48-1.5	1.26[319]	
839	4	(Mg65Cu25Gd10)99Y1	1.86-2.04	0.65-0.67	1.41	1.5-1.53	1.23[319]	
843	2	(Mg65Cu25Gd10)99Co1	1.76-1.82	0.64-0.65	1.44	1.48-1.49	1.26[319]	
845	6	(Mg65Cu25Gd10)99Be1	1.85	0.62-0.64	1.59	1.51-1.52	1.26[319]	
71	1	Mg70Al11Ga11Ca5Ni3	2.22	0.51	1.58	1.57		
332	1	Mg65Cu7.5Ni7.5Ag5Zn5Gd10	2.02	0.66	1.44	1.54		
333	1	Mg65Cu7.5Ni7.5Ag5Zn5Gd5Y5	2.02	0.66	1.44	1.54	1.31[312]	

Table 7: Various Parameters of Co-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G ₁ /2	G ₂ /2
295	5	Co64Nb8B28	1.88-1.96	0.54-0.56	1.74	2-2.05	1.56[320]	
892	4	Co62B30Ta8	1.92-2.07	0.51-0.55	1.74	2.02-2.12	1.56[321]	
900	3	Co73Mo7P14B6	1.36-1.56	0.71-0.72	1.66	1.74-1.81	1.56[322]	
308	15	Co46Fe20B22Si6Nb6	0.77-1.74	0.56-0.57	1.74	1.17-1.93	1.56[323]	1.59[323]
896	4	Co41Fe28Mo4Y5B22	0.87-0.9	0.31-0.32	2.19	1.5	1.56[324]	
313	5	(Co0.6Fe0.3Ni0.1)67B22Si6Nb5	1.13-1.15	0.56-0.59	1.74	1.67-1.7	1.56[325]	
336	5	[(Co0.7Fe0.3)0.68B0.219Si0.051Nb0.05]99.9Cu0.1	1.17	0.57	1.74	1.33-1.69	1.56[326]	
169	1	[(Fe0.5Co0.5)0.75B0.2Si0.05]96Nb4	0.61	0.58	1.74	1.36	1.98[327]	1.98[327]
216	2	Co43Fe5Cr15Mo14C15B6Er2	1.41-1.45	0.26-0.27	2.44	1.75-1.79	1.53[328]	
978	1	Co50Cr15Mo14C15B6	1.52	0.68	1.76	1.83	1.53[329]	1.56[329]
172	1	Co48Cr15Mo14C15B6Er2	1.56	0.27	2.44	1.81	1.53[329]	1.56[329]
217	2	Co41Fe20Ni2Ta2.75Nb2.75B26.5Si5	0.98-1.28	0.52-0.55	1.74	1.62-1.79	1.56[330]	1.59[330]
219	1	Co43.5Fe20Ta5.5B31.5	1.25	0.53	1.74	1.77		
380	1	(Co0.535Fe0.1Ta0.055B0.31)98Mo2	1.63	0.54	1.74	1.93		
987	2	[(Co0.535Fe0.1Ta0.055B0.31)0.98Mo0.02]99Si1	1.65-1.67	0.54	1.74	1.94		

Table 8: Various Parameters of Al-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G ₁ /2	G ₂ /2
23	1	Al85Y10Fe5	2.75	0.54	1.45	1.82	1.4[331]	
24	2	Al87Y8Ni5	2.85	0.53	1.44	1.85	1.39[332]	1.39[332]
25	1	Al70Fe20Zr10	1.65	0.69	1.29	1.59		
29	3	Al85Ni10Zr5	2.34-2.64	0.68-0.7	1.28	1.79-1.84		
55	1	Al76Cu19Zr5	2.54	0.69	1.25	1.84		
64	6	Al76.9Mg15.4Pd7.69	3.07-3.41	0.73-0.75	1.16	1.9-2		
139	1	Al88Ca7Ni5	2.78	0.42	1.58	1.82	1.33[333]	1.39[333]
616	1	Al86Ni9La5	2.73	0.59	1.51	1.68	1.33[334]	1.39[334]
621	12	Al82Ni7Gd11	2.67-2.85	0.51-0.54	1.44	1.82-1.86	1.65[335]	
56	5	Al74.5Cu15Ni5Zr5.5	2.37-2.46	0.67-0.68	1.28	1.81-1.82		
63	1	Al82Ni11Zr5Co2	2.51	0.69	1.28	1.82		
70	1	Al75Mg9.5Pd12.5Ca3	3.25	0.41	1.43	1.93		
73	4	Al35Mg35Ga25Ca5	2.6-2.74	0.45-0.47	1.42	1.71-1.75		
140	1	Al88Ca6Ni5Na1	2.77	0.41	1.58	1.81	1.39[333]	1.33[333]
141	1	Al88Ca6Ni5Eu1	2.79	0.32	1.59	1.81	1.39[333]	1.33[333]
142	1	Al88Ca6Ni5Sr1	2.77	0.48	1.73	1.85	1.39[333]	1.33[333]
185	1	Al84Ni10Ce6	2.71	0.46	1.49	1.83	1.26[336]	1.33[336]
186	1	Al84Ni10(Ce3La3)	2.71	0.48	1.51	1.84	1.33[336]	
617	1	Al86Ni9(La0.5Ce0.5)5	2.73	0.61	1.44	1.67	1.33[337]	
187	1	Al84Ni10Ce3Gd3	2.71	0.48	1.48	1.84	1.33[338]	
188	1	Al84Ni10Ce3Nd3	2.71	0.47	1.47	1.85	1.33[338]	
189	1	Al84Ni10Ce3Pr3	2.7	0.57	1.48	1.7	1.33[338]	
620	1	(Al87Y8Ni5)85B15	2.87	0.47	2.19	1.94	1.33[335]	1.33[335]
77	1	[Al40Mg40Ga15Ca5]99Ni1	2.6	0.46	1.58	1.71		
618	1	Al86(Ni0.5Co0.5)9(La0.5Ce0.5)5	2.82	0.6	1.51	1.69	1.39[337]	

Table 9: Various Parameters of Ni-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G ₁ /2	G ₂ /2
13	1	Ni59.5Nb33.6Sn6.9	2.41	0.57	1.3	1.9	1.72[339]	
14	1	Ni60Nb30Ta10	2.6	0.79	1.15	1.98	1.56[340]	
97	4	Ni62.0Nb35.0B3	2.46-2.61	0.76-0.78	1.74	1.97-2	1.49[341]	
221	7	Al20La35Ni45	1.5-1.95	0.53-0.61	1.51	1.38-1.49		
28	1	Ni75Nb5P16B4	1.6	0.62	1.74	1.83		
37	4	Ni70Mo5Nb5P14B6	1.17-1.85	0.42-0.63	1.74	1.67-1.92	1.46[342]	
481	3	Ni66Fe10P14B6Ta4	0.2-1.26	0.61	1.74	1.16-9.21	1.53[343]	
36	6	Ni65Cr5Mo5Nb5P16B4	0.73-1.6	0.59-0.63	1.74	1.41-1.82	1.46[342]	
341	1	Ni53Nb20Zr8Ti10Co6Cu3	2.02	0.6	1.28	1.79	1.41[344]	

17	1	Ni51W31.6B17.4	2.93	0.71	1.7	2.19	1.46[345]	1.43[345]
205	1	Ni46Cu5W31.6B17.4	2.93	0.71	1.7	2.18	1.46[345]	1.43[345]
52	2	Ni59Zr20Ti16Si2Sn3	1.68-1.87	0.59-0.62	1.4	1.64-1.72	1.46[143]	1.49[143]
180	1	Ni59Zr15Ti13Si3Sn2Nb7Al1	1.88	0.6	1.4	1.73	1.46[346]	
938	1	Ni52.5Nb10Zr15Ti15Pt7.5	2.3	0.62	1.25	1.84	1.43[347]	

Table 10: Various Parameters of Pd-based Metallic glasses

Alloy design	No. of alloys	Representative alloy	e/a range	V _R range	R _R	K _F range	G _{1/2}	G _{2/2}
40	8	Pd78Cu6Si16	5.07-6	0.91-0.92	1.19	1.85-2.53	1.43[348]	1.39[348]
41	3	Pd48Ni32P20	3-4.35	0.79	1.29	2.16-2.41	1.43[349]	1.39[349]
42	1	Pd73Fe7Si20	5.04	0.89	1.19	2.46		
4	3	Pd40Cu30Ni10P20	3.45	0.81	1.29	2.24-2.45	1.46[350]	
161	1	Pd20Pt20Cu20Ni20P20	3	0.8	1.23	2.13	1.46[351]	
975	2	Pd81Si19	5.6-5.62	0.92	1.19	2.53	1.43[352]	
583	1	(Pd40Ni40P20)99Co1	2.96	0.79	1.29	2.15	1.43[353]	
925	1	(Pd40Ni40P20)99.4Fe0.6	2.98	0.78	1.29	2.16	1.43[353]	
289	1	Pd40Ni10Cu30Si5P15	3.35	0.81	1.29	2.23	1.49[354]	
972	4	Pd40Ni40Si2P18	3.02-3.06	0.79	1.29	2.16-2.17	1.49[354]	
760	1	Pd79Au1.5Ag3Si16.5	5.7	0.81	1.25	2.53	1.43[354]	
203	2	Pd79Ag5Si16	5.64-5.65	0.81-0.94	1.25	2.52	1.43[354]	
54	1	Pd80Au3.5Si16.5	5.62	0.93	1.19	2.52	1.43[354]	

Table 11: System stabilized by Fermi surface-Brillouin zone interaction with $K_F \approx G_{1/2}$

Alloy design	No. of alloys	Representative alloy	e/a range	K _F range	G _{1/2}
31	9	Cu48Ti34Zr10Ni8	1.3-2.0	1.43-1.75	1.39[55]
33	4	(Fe Ni)80P14B6	1-1.2	1.58-1.7	1.56[7]
175	19	(Cu0.5Zr0.5)98Al2	1.28-1.42	1.42-1.76	1.39[52]
192	2	(Zr55Cu30Al10)99Nb1.0	1.41-1.46	1.45-1.46	1.39[84]
195	2	Fe48Cr15Mo14C15B6Y2	1.11-1.56	1.63-1.82	1.72[39]
300	5	(Cu47.5Zr47.5Al5)99V1	1.34-1.7	1.44-1.57	1.39[59]
347	1	Zr60.14Cu22.31Fe4.85Al9.7Ag3	1.48	1.44	1.39[89]
358	5	(Zr54Al17Co29)99Ta1	1.06-1.14	1.31-1.34	1.33[75]
426	2	Fe61Co10Zr3Hf2W2Y2B20	1.40-1.41	1.71	1.66[42]
433	1	Fe61Co8Zr4Y2Ni5Nb5B15	1.35	1.74	1.72[29]
436	5	Fe77.5Si9B13Y0.5	1.53-1.6	1.82-1.84	1.79[13]
527	1	Cu50Zr45Gd5	1.32	1.42	1.46[57]

588	2	Zr65.7Ni33.3Si1	1.02-1.07	1.28-1.31	1.29[76]
590	2	Zr65.7Ni33.3Pd1	1.03-1.13	1.29-1.33	1.29[76]
592	2	Zr65.7Ni33.3La1	1.01-1.04	1.27	1.29[76]
638	3	(Zr46Cu46Al8)99Co1	1.3-1.36	1.44-1.45	1.39[81]
677	5	Zr54Co28Al16Y2	1.07-1.22	1.3-1.36	1.26[82]
767	4	(Cu47Zr45Al8)99Lu 1	1.4-1.44	1.46-1.47	1.39[66]
775	4	(Cu47Zr45Al8)99Dy1	1.4-1.44	1.46-1.47	1.39[66]
783	1	Cu47.7Zr48Al4Co0.3	1.31	1.43	1.39[63]
784	1	Cu47.5Zr48Al4Cr0.5	1.3	1.43	1.39[63]
785	1	Cu47.5Zr48Al4Fe0.5	1.3	1.43	1.39[63]
786	1	Cu47.7Zr48Al4Mo0.3	1.33	1.44	1.39[63]
787	1	Cu47.7Zr48Al4W0.3	1.33	1.44	1.39[63]
891	1	Fe60Co8Zr10Mo5W2B15	1.54	1.75	1.72[44]
908	1	(Fe41Co7Cr15Mo14Y2C15)94B6	1.34	1.77	1.72[50]
961	3	Fe62Ni8Cr7Mo3P12C4B4	1-1.2	1.61-1.66	1.56[34]
994	4	(Cu50Zr43Al7)99.5Si0.5	1.36-1.4	1.46-1.48	1.36