Takeshi Egami

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426 papers	18,838 citations	73 h-index	121 g-index
440 ext. papers	20,155 ext. citations	4.3 avg, IF	6.87 L-index

#	Paper	IF	Citations
426	Atomic size effect on the formability of metallic glasses. *Journal of Non-Crystalline Solids*, **1984**, 64, 113-134	3.9	849
425	Lattice Defects and Oxygen Storage Capacity of Nanocrystalline Ceria and Ceria-Zirconia. *Journal of Physical Chemistry B*, **2000**, 104, 11110-11116	3.4	445
424	Underneath the Bragg Peaks. *Materials Today*, **2003**, 6, 57	21.8	367
423	Structural defects in amorphous solids A computer simulation study. *Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties*, **1980**, 41, 883-901		364
422	Anomalous Dispersion of LO Phonons in La1.85Sr0.15CuO4 at Low Temperatures. *Physical Review Letters*, **1999**, 82, 628-631	7.4	319
421	Local Jahn-Teller distortion in La1−xSrxMnO3 observed by pulsed neutron diffraction. *Physical Review B*, **1997**, 56, R8475-R8478	3.3	289
420	Direct observation of the formation of polar nanoregions in Pb(Mg1/3Nb2/3)O3 using neutron pair distribution function analysis. *Physical Review Letters*, **2005**, 94, 147602	7.4	288
419	Structural relaxation in amorphous Fe40Ni40P14 B6 studied by energy dispersive X-ray diffraction. *Journal of Materials Science*, **1978**, 13, 2587-2599	4.3	272
418	Structural relaxation in amorphous alloys - compositional short range ordering. *Materials Research Bulletin*, **1978**, 13, 557-562	5.1	262
417	Structural defects in amorphous solids Statistical analysis of a computer model. *Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties*, **1981**, 44, 847-866		256
416	Local Atomic Structure and Conduction Mechanism of Nanocrystalline Hydrous RuO2 from X-ray Scattering. *Journal of Physical Chemistry B*, **2002**, 106, 12677-12683	3.4	249
415	Accuracy of pair distribution function analysis applied to crystalline and non-crystalline materials. *Acta Crystallographica Section A: Foundations and Advances*, **1992**, 48, 336-346		238
414	Incommensurate Spin Dynamics of Underdoped Superconductor YBa2Cu3O6.7. *Physical Review Letters*, **1999**, 83, 608-611	7.4	236
413	Elastic heterogeneity in metallic glasses. *Physical Review Letters*, **2010**, 105, 205502	7.4	232
412	Bond-orientational anisotropy in metallic glasses observed by x-ray diffraction. *Physical Review B*, **1987**, 35, 2162-2168	3.3	232
411	Magnetic properties of FexCu100-x solid solutions. *Physical Review B*, **1986**, 33, 3247-3250	3.3	229
410	Two-dimensional resonant magnetic excitation in BaFe1.84Co0.16As2. *Physical Review Letters*, **2009**, 102, 107005	7.4	228

409	Atomic level stresses. *Progress in Materials Science*, **2011**, 56, 637-653	42.2	227
408	An atomistic study of deformation of amorphous metals. *Acta Metallurgica*, **1983**, 31, 335-352		214
407	Observation of a local structural change at Tc for Tl2Ba2CaCu2O8 by pulsed neutron diffraction. *Physical Review Letters*, **1990**, 64, 2414-2417	7.4	207
406	Magnetic amorphous alloys: physics and technological applications. *Reports on Progress in Physics*, **1984**, 47, 1601-1725	14.4	204
405	Extended phonon collapse and the origin of the charge-density wave in 2H-NbSe2. *Physical Review Letters*, **2011**, 107, 107403	7.4	199
404	Universal criterion for metallic glass formation. *Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing*, **1997**, 226-228, 261-267	5.3	194
403	Local structural fluctuations in amorphous and liquid metals: a simple theory of the glass transition. *Journal of Physics F: Metal Physics*, **1982**, 12, 2141-2163		184
402	Radial distribution function and structural relaxation in amorphous solids. *Physical Review B*, **1981**, 24, 6936-6944	3.3	183
401	Aluminum Alloying Effects on Lattice Types, Microstructures, and Mechanical Behavior of High-Entropy Alloys Systems. *Jom*, **2013**, 65, 1848-1858	2.1	180
400	Stress-temperature scaling for steady-state flow in metallic glasses. *Physical Review Letters*, **2010**, 104, 205701	7.4	162
399	Structural Aspects of Metallic Glasses. *MRS Bulletin*, **2007**, 32, 629-634	3.2	147
398	Elementary excitations and crossover phenomenon in liquids. *Physical Review Letters*, **2013**, 110, 205504	7.4	144
397	Short-range ordering due to displacements of thallium and oxygen atoms in superconducting Tl2Ba2CaCu2O8 observed by pulsed-neutron scattering. *Physical Review Letters*, **1988**, 61, 2608-2611	7.4	143
396	Glass transition in metallic glasses: A microscopic model of topological fluctuations in the bonding network. *Physical Review B*, **2007**, 76,	3.3	137
395	Lattice effect of strong electron correlation: implication for ferroelectricity and superconductivity. *Science*, **1993**, 261, 1307-10	33.3	137
394	How thermally activated deformation starts in metallic glass. *Nature Communications*, **2014**, 5, 5083	17.4	136
393	Atomic Level Stresses in Solids and Liquids. *Physica Status Solidi (B): Basic Research*, **1987**, 144, 145-156	1.3	136
392	Structural rejuvenation in a bulk metallic glass induced by severe plastic deformation. *Acta Materialia*, **2010**, 58, 429-438	8.4	132

391	Atomic structure of amorphous Al90FexCe10. *Journal of Materials Research*, **1990**, 5, 2807-2812	2.5	127
390	Local Atomic Structure of a High-Entropy Alloy: An X-Ray and Neutron Scattering Study. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2013**, 44, 1994-1997	2.3	121
389	Short-range atomic structure of Nd2-xCexCuO4-y determined by real-space refinement of neutron-powder-diffraction data. *Physical Review B*, **1993**, 47, 14386-14406	3.3	121
388	In-situ TEM observation of structural changes in nano-crystalline CoCrCuFeNi multicomponent high-entropy alloy (HEA) under fast electron irradiation by high voltage electron microscopy (HVEM). *Intermetallics*, **2015**, 59, 32-42	3.5	118
387	The Spallation Neutron Source in Oak Ridge: A powerful tool for materials research. *Physica B: Condensed Matter*, **2006**, 385-386, 955-960	2.8	117
386	Local fluctuations and ordering in liquid and amorphous metals. *Physical Review B*, **1988**, 37, 2440-2449	3.3	117
385	Nanoscale Heterogeneities and Oxygen Storage Capacity of Ce0.5Zr0.5O2. *Journal of Physical Chemistry B*, **2003**, 107, 13007-13014	3.4	116
384	Irradiation Resistance of Multicomponent Alloys. *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **2014**, 45, 180-183	2.3	112
383	Tunneling electroresistance induced by interfacial phase transitions in ultrathin oxide heterostructures. *Nano Letters*, **2013**, 13, 5837-43	11.5	106
382	Building a high resolution total scattering powder diffractometer upgrade of NPD at MLNSC. *Applied Physics A: Materials Science and Processing*, **2002**, 74, s163-s165	2.6	106
381	Molecular-dynamics study of orientational order in liquids and glasses and its relation to the glass transition. *Physical Review B*, **1995**, 52, 3290-3308	3.3	104
380	Engineering atomic-level complexity in high-entropy and complex concentrated alloys. *Nature Communications*, **2019**, 10, 2090	17.4	102
379	Multiple conducting carriers generated in LaAlO3/SrTiO3 heterostructures. *Applied Physics Letters*, **2009**, 95, 082107	3.4	102
378	Low field magnetic properties of ferromagnetic amorphous alloys. *Applied Physics Letters*, **1975**, 26, 128-130	3.4	101
377	STRUCTURAL RELAXATION IN METALLIC GLASSES. *Annals of the New York Academy of Sciences*, **1981**, 371, 238-251	6.5	100
376	Atomic Structure of PbZrO3 Determined by Pulsed Neutron Diffraction. *Acta Crystallographica Section B: Structural Science*, **1998**, 54, 750-765		95
375	Local lattice distortions in La1SrxMnO3 studied by pulsed neutron scattering. *Physical Review B*, **1999**, 59, 6193-6204	3.3	95
374	Effect of low-temperature annealing and deformation on the structure of metallic glasses by X-ray diffraction. *Journal of Materials Science*, **1979**, 14, 1249-1253	4.3	95

373	Ceria films on zirconia substrates: models for understanding oxygen-storage properties. *Catalysis Today*, **1999**, 50, 343-352	5.3	92
372	Short range ordering in amorphous Al90FexCe10□. *Journal of Non-Crystalline Solids*, **1991**, 135, 248-254	3.9	91
371	Internal friction and reversible structural relaxation in the metallic glass Fe32Ni36Cr14P12B6. *Acta Metallurgica*, **1984**, 32, 603-613		89
370	Local lattice dynamics and the origin of the relaxor ferroelectric behavior. *Physical Review Letters*, **2008**, 100, 137602	7.4	88
369	Structural defects in a nano-scale powder of CeO 2 studied by pulsed neutron diffraction. *Journal of Physics and Chemistry of Solids*, **2000**, 61, 1345-1356	3.9	87
368	Differential anomalous-x-ray-scattering study of icosahedral and amorphous Pd58.8U20.6Si20.6. *Physical Review Letters*, **1986**, 57, 114-117	7.4	87
367	Mechanical Properties of Metallic Glasses. *Metals*, **2013**, 3, 77-113	2.3	84
366	Synchrotron X-ray scattering study of lead magnoniobate relaxor ferroelectric crystals. *Journal of Physics and Chemistry of Solids*, **1996**, 57, 1517-1523	3.9	84
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364	Domain Walls in Ferromagnetic Dy and Tb. *Journal of Applied Physics*, **1971**, 42, 1299-1300	2.5	82
363	Mechanical Properties of Nanoscopic Lipid Domains. *Journal of the American Chemical Society*, **2015**, 137, 15772-80	16.4	81
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361	Theory of intrinsic magnetic after-effect i. thermally activated process. *Physica Status Solidi A*, **1973**, 19, 747-758		79
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359	Atomic-scale dynamics of a model glass-forming metallic liquid: Dynamical crossover, dynamical decoupling, and dynamical clustering. *Physical Review B*, **2015**, 91,	3.3	76
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356	Crossover from Localized to Cascade Relaxations in Metallic Glasses. *Physical Review Letters*, **2015**, 115, 045501	7.4	73

355	Atomistic mechanism of bulk metallic glass formation. *Journal of Non-Crystalline Solids*, **2003**, 317, 30-33	3.9	73
354	Structure Sensitivity of the Reaction of Methanol on Ceria. *Langmuir*, **2001**, 17, 2464-2470	4	73
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352	Structural rejuvenation in bulk metallic glasses. *Acta Materialia*, **2015**, 86, 240-246	8.4	72
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350	Kinetics of structural relaxation in amorphous alloy observed by X-ray diffraction. *Materials Science and Engineering*, **1978**, 32, 293-295		72
349	Atomic Correlations in Non-Periodic Matter. *Materials Transactions, JIM*, **1990**, 31, 163-176		69
348	Enhancement of the electron-lattice interaction due to strong electron correlation. *Physical Review B*, **1994**, 49, 8944-8954	3.3	68
347	Local structure of Pb(Sc1/2,Ta1/2)O3 and related compounds. *Journal of Physics and Chemistry of Solids*, **2000**, 61, 229-237	3.9	67
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343	Formation and deformation of metallic glasses: Atomistic theory. *Intermetallics*, **2006**, 14, 882-887	3.5	60
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339	Energy landscape-driven non-equilibrium evolution of inherent structure in disordered material. *Nature Communications*, **2017**, 8, 15417	17.4	57
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337	Structure of Al-Li-Cu icosahedral crystals and Penrose tiling. *Physical Review Letters*, **1987**, 58, 1440-1443	7.4	57
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335	Bulk magnetic order in a two-dimensional Ni1+/Ni2+ (d9/d8) nickelate, isoelectronic with superconducting cuprates. *Physical Review Letters*, **2010**, 104, 206403	7.4	56
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333	Growth control of the oxidation state in vanadium oxide thin films. *Applied Physics Letters*, **2014**, 105, 223515	3.4	54
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330	Shear deformation of glassy metals: Breakdown of cauchy relationship and anelasticity. *Journal of Non-Crystalline Solids*, **1985**, 75, 361-366	3.9	54
329	Structure and magnetism of amorphous alloys. *IEEE Transactions on Magnetics*, **1981**, 17, 2600-2605	2	54
328	Theory of bloch wall tunnelling. *Physica Status Solidi (B): Basic Research*, **1973**, 57, 211-224	1.3	54
327	Short-, intermediate-, and extended-range order in rubidium germanate glasses. *Physical Review B*, **1997**, 55, 11249-11255	3.3	53
326	Crystal structures of Ln4Ni3O8 (Ln = La, Nd) triple layer T*-type nickelates. *Inorganic Chemistry*, **2007**, 46, 10887-91	5.1	53
325	Severe local lattice distortion in Zr- and/or Hf-containing refractory multi-principal element alloys. *Acta Materialia*, **2020**, 183, 172-181	8.4	53
324	Understanding the properties and structure of metallic glasses at the atomic level. *Jom*, **2010**, 62, 70-75	2.1	52
323	Local Electronic Effects and Irradiation Resistance in High-Entropy Alloys. *Jom*, **2015**, 67, 2345-2349	2.1	51
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318	Effect of Pnictogen Height on Spin Waves in Iron Pnictides. *Physical Review Letters*, **2014**, 112,	7.4	48
317	Electron-irradiation-induced structural change in ZrHfNb alloy. *Intermetallics*, **2012**, 26, 122-130	3.5	48
316	Electron-lattice interaction in cuprates. *Journal of Low Temperature Physics*, **1996**, 105, 791-800	1.3	48
315	Structure of Al-Mn-Cr-Si quasicrystals studied by pulsed neutron scattering. *Physical Review B*, **1987**, 35, 435-440	3.3	47
314	A model of short and intermediate range atomic structure in the relaxor ferroelectric Pb(Mg1/3, Nb2/3)O3. *Ferroelectrics*, **1994**, 158, 351-356	0.6	46
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311	Temperature dependence of the local structure of YBa2Cu4O8. *Physical Review B*, **1995**, 51, 6747-6750	3.3	44
310	Observation of structural anisotropy in metallic glasses induced by mechanical deformation. *Journal of Materials Research*, **2007**, 22, 412-418	2.5	43
309	Molecular-dynamics study of structural anisotropy and anelasticity in metallic glasses. *Physical Review B*, **1993**, 48, 3048-3057	3.3	43
308	Fe-B-C amorphous alloys with room-temperature saturation induction over 17.5 kG. *Applied Physics Letters*, **1979**, 34, 113-115	3.4	43
307	Effect of annealing on the Curie temperature of amorphous alloys. *Journal of Applied Physics*, **1979**, 50, 7615	2.5	43
306	Variations in atomic structural features of a supercooled PdNiCuP glass forming liquid during in situ vitrification. *Acta Materialia*, **2011**, 59, 708-716	8.4	42
305	Micromagnetic Theory of Phase Transitions in Inhomogeneous Ferromagnets III. Non-Local Landau-Ginzburg Theory. *Physica Status Solidi (B): Basic Research*, **1980**, 101, 713-721	1.3	42
304	Effect of d electrons on defect properties in equiatomic NiCoCr and NiCoFeCr concentrated solid solution alloys. *Physical Review Materials*, **2018**, 2,	3.2	42
303	Seeing real-space dynamics of liquid water through inelastic x-ray scattering. *Science Advances*, **2017**, 3, e1603079	14.3	41
302	Local Structure of Ferroelectric Materials. *Annual Review of Materials Research*, **2007**, 37, 297-315	12.8	41

301	Vibronic mechanism of high-Tc superconductivity. *Physical Review B*, **2003**, 67,	3.3	41
300	Anisotropy and coercivity of amorphous RE-TM films. *IEEE Transactions on Magnetics*, **1987**, 23, 2269-2271		41
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298	Relaxor ferroelectrics and intrinsic inhomogeneity. *Europhysics Letters*, **2005**, 71, 249-255	1.6	40
297	Itinerant electrons, local moments, and magnetic correlations in the pnictide superconductors CeFeAsO1−xFx and Sr(Fe1−xCox)2As2. *Physical Review B*, **2012**, 85,	3.3	39
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294	The effect of thermal cycling on the fracture toughness of metallic glasses. *Acta Materialia*, **2020**, 184, 100-108	8.4	38
293	Mechanical rejuvenation in bulk metallic glass induced by thermo-mechanical creep. *Acta Materialia* , **2018**, 148, 384-390	8.4	37
292	Temperature dependence of magnetization of amorphous Fe-B-C alloys. *Journal of Applied Physics*, **1979**, 50, 1589-1591	2.5	37
291	Local structure of NaNbO3: A neutron scattering study. *Physical Review B*, **2013**, 88,	3.3	36
290	Atomic mechanism of flow in simple liquids under shear. *Physical Review Letters*, **2012**, 108, 196001	7.4	36
289	Low-temperature specific heat of the metallic glasses FexNi80−xP14B6 with x=0,20,40,60,80. *Physical Review B*, **1979**, 20, 1211-1220	3.3	35
288	The origin of viscosity as seen through atomic level stress correlation function. *Journal of Chemical Physics*, **2013**, 138, 044507	3.9	34
287	Measurement of a double neutron-spin resonance and an anisotropic energy gap for underdoped superconducting NaFe0.985Co0.015As using inelastic neutron scattering. *Physical Review Letters*, **2013**, 111, 207002	7.4	34
286	Phonon softening near the structural transition in BaFe2As2 observed by inelastic x-ray scattering. *Physical Review B*, **2011**, 84,	3.3	34
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281	Structural basis for supercooled liquid fragility established by synchrotron-radiation method and computer simulation. *Journal of Applied Physics*, **2011**, 110, 043519	2.5	33
280	Electron-lattice interaction in cuprates: Effect of electron correlation. *Physical Review B*, **1997**, 55, 3163-3172	3.5	33
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277	Mechanical failure and glass transition in metallic glasses. *Journal of Alloys and Compounds*, **2011**, 509, S82-S86	5.7	32
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274	Local structural change close to Tc in Nd2−xCexCuO4−y. *Physica C: Superconductivity and Its Applications*, **1991**, 179, 279-285	1.3	32
273	Designing the composition and heat treatment of magnetic amorphous alloys. *Materials Science and Engineering*, **1981**, 48, 147-165		32
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271	Deviations from planarity of copper-oxygen sheets in Ca0.85Sr0.15CuO2. *Physical Review B*, **1991**, 43, 10340-10352	3.3	31
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253	Kinetics of volume and enthalpy relaxation in Pt60Ni15P25 bulk metallic glass. *Physical Review B*, **2010**, 81,	3.3	25
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249	Determining medium range order by powder diffraction. *Journal of Physics and Chemistry of Solids*, **1995**, 56, 1407-1413	3.9	24
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