

Tayyab I Suratwala

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/1957715/publications.pdf>

Version: 2024-02-01

63
papers

2,609
citations

236925

25
h-index

197818

49
g-index

72
all docs

72
docs citations

72
times ranked

1587
citing authors

#	ARTICLE	IF	CITATIONS
1	Sub-surface mechanical damage distributions during grinding of fused silica. Journal of Non-Crystalline Solids, 2006, 352, 5601-5617.	3.1	243
2	HF-Based Etching Processes for Improving Laser Damage Resistance of Fused Silica Optical Surfaces. Journal of the American Ceramic Society, 2011, 94, 416-428.	3.8	197
3	3D-Printed Transparent Glass. Advanced Materials, 2017, 29, 1701181.	21.0	177
4	Fracture-induced subbandgap absorption as a precursor to optical damage on fused silica surfaces. Optics Letters, 2010, 35, 2702.	3.3	150
5	Effect of rogue particles on the sub-surface damage of fused silica during grinding/polishing. Journal of Non-Crystalline Solids, 2008, 354, 2023-2037.	3.1	133
6	The effect of HF/NH ₄ F etching on the morphology of surface fractures on fused silica. Journal of Non-Crystalline Solids, 2009, 355, 797-810.	3.1	131
7	Silylated Coumarin Dyes in Sol-Gel Hosts. 1. Structure and Environmental Factors on Fluorescent Properties. Chemistry of Materials, 1998, 10, 190-198.	6.7	115
8	Surface chemistry and trimethylsilyl functionalization of Stober silica sols. Journal of Non-Crystalline Solids, 2003, 316, 349-363.	3.1	111
9	Metallic-like photoluminescence and absorption in fused silica surface flaws. Applied Physics Letters, 2009, 94, .	3.3	100
10	3D Printed Optical Quality Silica and Silica-Titania Glasses from Sol-Gel Feedstocks. Advanced Materials Technologies, 2018, 3, 1700323.	5.8	74
11	Toward Deterministic Material Removal and Surface Figure During Fused Silica Pad Polishing. Journal of the American Ceramic Society, 2010, 93, 1326-1340.	3.8	71
12	Silylated Coumarin Dyes in Sol-Gel Hosts. 2. Photostability and Sol-Gel Processing. Chemistry of Materials, 1998, 10, 199-209.	6.7	66
13	Chemistry and Formation of the Beilby Layer During Polishing of Fused Silica Glass. Journal of the American Ceramic Society, 2015, 98, 2395-2402.	3.8	66
14	Subcritical Crack Growth in a Phosphate Laser Glass. Journal of the American Ceramic Society, 1999, 82, 3097-3104.	3.8	60
15	NIF Pockels cell and frequency conversion crystals. , 2004, , .		58
16	Microscopic Removal Function and the Relationship Between Slurry Particle Size Distribution and Workpiece Roughness During Pad Polishing. Journal of the American Ceramic Society, 2014, 97, 81-91.	3.8	51
17	Enhanced Delamination of Ultrathin Free-Standing Polymer Films via Self-Limiting Surface Modification. Langmuir, 2014, 30, 5126-5132.	3.5	48
18	Processing and optical properties of inorganic-organic hybrids (polycerams). II. PDMS-based waveguides. Journal of Non-Crystalline Solids, 1994, 178, 37-43.	3.1	41

#	ARTICLE	IF	CITATIONS
19	Predicting Nanoparticle Suspension Viscoelasticity for Multimaterial 3D Printing of Silica-Titania Glass. ACS Applied Nano Materials, 2018, 1, 4038-4044.	5.0	39
20	Additive Manufacturing of Optical Quality Germania-Silica Glasses. ACS Applied Materials & Interfaces, 2020, 12, 6736-6741.	8.0	39
21	Anomalous temperature dependence of sub-critical crack growth in silica glass. Journal of Non-Crystalline Solids, 2003, 316, 174-182.	3.1	35
22	Characterization of Proton Exchange Layer Profiles in KD ₂ PO ₄ Crystals by Micro-Raman Spectroscopy. Applied Spectroscopy, 2004, 58, 349-351.	2.2	33
23	Charged micelle halo mechanism for agglomeration reduction in metal oxide particle based polishing slurries. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 447, 32-43.	4.7	33
24	Nanoscratching of Optical Glass Surfaces Near the Elastic-Plastic Load Boundary to Mimic the Mechanics of Polishing Particles. Journal of the American Ceramic Society, 2016, 99, 1477-1484.	3.8	32
25	Convergent Pad Polishing of Amorphous Silica. International Journal of Applied Glass Science, 2012, 3, 14-28.	2.0	31
26	Mechanism and Simulation of Removal Rate and Surface Roughness During Optical Polishing of Glasses. Journal of the American Ceramic Society, 2016, 99, 1974-1984.	3.8	30
27	Thermal annealing of laser damage precursors on fused silica surfaces. Optical Engineering, 2012, 51, 121817.	1.0	26
28	MRF applications: measurement of process-dependent subsurface damage in optical materials using the MRF wedge technique. , 2005, , .		24
29	Processing and optical properties of inorganic-organic hybrids (polycerams). I. MPEOU-based waveguides. Journal of Non-Crystalline Solids, 1994, 178, 31-36.	3.1	22
30	Influence of Temperature and Material Deposit on Material Removal Uniformity during Optical Pad Polishing. Journal of the American Ceramic Society, 2014, 97, 1720-1727.	3.8	22
31	Programmable beam spatial shaping system for the National Ignition Facility. Proceedings of SPIE, 2011, , .	0.8	20
32	Polishing slurry induced surface haze on phosphate laser glasses. Journal of Non-Crystalline Solids, 2005, 351, 2091-2101.	3.1	19
33	A programmable beam shaping system for tailoring the profile of high fluence laser beams. , 2010, , .		19
34	Origins of optical absorption characteristics of Cu ²⁺ complexes in aqueous solutions. Physical Chemistry Chemical Physics, 2015, 17, 18913-18923.	2.8	19
35	Relationship between surface roughness and interface slurry particle spatial distribution during glass polishing. Journal of the American Ceramic Society, 2017, 100, 2790-2802.	3.8	18
36	XAFS Investigation of Platinum Impurities in Phosphate Glasses. Journal of the American Ceramic Society, 2002, 85, 1093-1099.	3.8	15

#	ARTICLE	IF	CITATIONS
37	Effect of humidity during the coating of StÅrber silica sols. Journal of Non-Crystalline Solids, 2004, 349, 368-376.	3.1	15
38	Subsurface mechanical damage correlations after grinding of various optical materials. Optical Engineering, 2019, 58, 1.	1.0	15
39	Photostability of silylated coumarin dyes in polyceram hosts. Journal of Sol-Gel Science and Technology, 1997, 8, 973-978.	2.4	14
40	Phosphate laser glass for NIF: production status, slab selection, and recent technical advances. , 2004, , .		11
41	Mechanisms influencing and prediction of tool influence function spots during hemispherical sub-aperture tool polishing on fused silica. Applied Optics, 2021, 60, 201.	1.8	11
42	Processing and photostability of pyrromethene 567 polycerams. Journal of Sol-Gel Science and Technology, 1997, 8, 953-958.	2.4	10
43	<title>Dehydroxylation of phosphate laser glass</title> . , 2000, 4102, 175.		10
44	Optimized pitch button blocking for polishing high-aspect-ratio optics. Applied Optics, 2012, 51, 8350.	1.8	10
45	Convergent Polishing: A Simple, Rapid, Full Aperture Polishing Process of High Quality Optical Flats & Spheres. Journal of Visualized Experiments, 2014, , .	0.3	10
46	Influence of partial charge on the material removal rate during chemical polishing. Journal of the American Ceramic Society, 2019, 102, 1566-1578.	3.8	10
47	Molecular engineering and photostability of laser dyes within sol-gel hosts. , 1997, , .		9
48	Polishing and local planarization of plastic spherical capsules using tumble finishing. Applied Surface Science, 2012, 261, 679-689.	6.1	9
49	Dynamics of defects in Ce ³⁺ doped silica affecting its performance as protective filter in ultraviolet high-power lasers. Optics Express, 2014, 22, 28798.	3.4	9
50	Towards predicting removal rate and surface roughness during grinding of optical materials. Applied Optics, 2019, 58, 2490.	1.8	9
51	Understanding and reducing mid-spatial frequency ripples during hemispherical sub-aperture tool glass polishing. Applied Optics, 2022, 61, 3084.	1.8	8
52	Lateral cracks during sliding indentation on various optical materials. Journal of the American Ceramic Society, 2020, 103, 1343-1357.	3.8	7
53	Utilization of magnetorheological finishing as a diagnostic tool for investigating the three-dimensional structure of fractures in fused silica. , 2005, 5991, 26.		6
54	Ultrafast photoluminescence as a diagnostic for laser damage initiation. Proceedings of SPIE, 2009, , .	0.8	6

#	ARTICLE	IF	CITATIONS
55	Effect of workpiece curvature on the tool influence function during hemispherical sub-aperture tool glass polishing. Applied Optics, 2021, 60, 1041.	1.8	6
56	Correlation of laser-induced damage to phase objects in bulk fused silica. , 2005, , .		5
57	Reversing Gels and Water Soluble Colloids from Aminosiloxanes. Journal of Sol-Gel Science and Technology, 1998, 13, 553-558.	2.4	4
58	Fail-safe design for square vacuum-barrier windows. , 1999, 3492, 740.		3
59	Determination of laser damage initiation probability and growth on fused silica scratches. , 2010, , .		3
60	Nanoplastic removal function and the mechanical nature of colloidal silica slurry polishing. Journal of the American Ceramic Society, 2019, 102, 3141-3151.	3.8	3
61	Sol-gel derived anti-reflective coatings for high fluence lasers. , 2020, , 7-38.		3
62	Development of continuous glass melting for production of Nd-doped phosphate glasses for the NIF and LMJ laser systems. , 1999, , .		2
63	<title>Control of porosity in SiO ₂ :PDMS polycerams through variations in sol-gel processing and polymer content</title>. , 1997, , .		1