Tayyab I Suratwala

List of Publications by Year
in descending order

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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	Understanding and reducing mid-spatial frequency ripples during hemispherical sub-aperture tool glass polishing. Applied Optics, 2022, 61, 3084.	1.8	8
2	Effect of workpiece curvature on the tool influence function during hemispherical sub-aperture tool glass polishing. Applied Optics, 2021, 60, 1041.	1.8	6
3	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
4	Lateral cracks during sliding indentation on various optical materials. Journal of the American Ceramic Society, 2020, 103, 1343-1357.	3.8	7
5	Additive Manufacturing of Optical Quality Germaniaâ€“Silica Glasses. ACS Applied Materials & Interfaces, 2020, 12, 6736-6741.	8.0	39
6	Solâ€“gel derived anti-reflective coatings for high fluence lasers. , 2020, , 7-38.		3
7	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
8	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
9	Subsurface mechanical damage correlations after grinding of various optical materials. Optical Engineering, 2019, 58, 1.	1.0	15
10	Towards predicting removal rate and surface roughness during grinding of optical materials. Applied Optics, 2019, 58, 2490.	1.8	9
11	3D Printed Optical Quality Silica and Silicaâ€“Titania Glasses from Solâ€“Gel Feedstocks. Advanced Materials Technologies, 2018, 3, 1700323.	5.8	74
12	Predicting Nanoparticle Suspension Viscoelasticity for Multimaterial 3D Printing of Silicaâ€“Titania Glass. ACS Applied Nano Materials, 2018, 1, 4038-4044.	5.0	39
13	3Dâ€Printed Transparent Glass. Advanced Materials, 2017, 29, 1701181.	21.0	177
14	Relationship between surface Î¼â€roughness and interface slurry particle spatial distribution during glass polishing. Journal of the American Ceramic Society, 2017, 100, 2790-2802.	3.8	18
15	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
16	Nanoscratching of Optical Glass Surfaces Near the Elasticâ€“Plastic Load Boundary to Mimic the Mechanics of Polishing Particles. Journal of the American Ceramic Society, 2016, 99, 1477-1484.	3.8	32
17	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
18	Origins of optical absorption characteristics of Cu²⁺complexes in aqueous solutions. Physical Chemistry Chemical Physics, 2015, 17, 18913-18923.	2.8	19

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19	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
20	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
21	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
22	Enhanced Delamination of Ultrathin Free-Standing Polymer Films via Self-Limiting Surface Modification. Langmuir, 2014, 30, 5126-5132.	3.5	48
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	Convergent Polishing: A Simple, Rapid, Full Aperture Polishing Process of High Quality Optical Flats & Spheres. Journal of Visualized Experiments, 2014, , .	0.3	10
25	Thermal annealing of laser damage precursors on fused silica surfaces. Optical Engineering, 2012, 51, 121817.	1.0	26
26	Optimized pitch button blocking for polishing high-aspect-ratio optics. Applied Optics, 2012, 51, 8350.	1.8	10
27	Polishing and local planarization of plastic spherical capsules using tumble finishing. Applied Surface Science, 2012, 261, 679-689.	6.1	9
28	Convergent Pad Polishing of Amorphous Silica. International Journal of Applied Glass Science, 2012, 3, 14-28.	2.0	31
29	Programmable beam spatial shaping system for the National Ignition Facility. Proceedings of SPIE, 2011, , .	0.8	20
30	HFâ€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
31	Determination of laser damage initiation probability and growth on fused silica scratches. , 2010, , .		3
32	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
33	A programmable beam shaping system for tailoring the profile of high fluence laser beams. , 2010, , .		19
34	Fracture-induced subbandgap absorption as a precursor to optical damage on fused silica surfaces. Optics Letters, 2010, 35, 2702.	3.3	150
35	Metallic-like photoluminescence and absorption in fused silica surface flaws. Applied Physics Letters, 2009, 94, .	3.3	100
36	Ultrafast photoluminescence as a diagnostic for laser damage initiation. Proceedings of SPIE, 2009, , .	0.8	6

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37	The effect of HF/NH4F etching on the morphology of surface fractures on fused silica. Journal of Non-Crystalline Solids, 2009, 355, 797-810.	3.1	131
38	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
39	Sub-surface mechanical damage distributions during grinding of fused silica. Journal of Non-Crystalline Solids, 2006, 352, 5601-5617.	3.1	243
40	Utilization of magnetorheological finishing as a diagnostic tool for investigating the three-dimensional structure of fractures in fused silica. , 2005, 5991, 26.		6
41	Correlation of laser-induced damage to phase objects in bulk fused silica. , 2005, , .		5
42	MRF applications: measurement of process-dependent subsurface damage in optical materials using the MRF wedge technique. , 2005, , .		24
43	Polishing slurry induced surface haze on phosphate laser glasses. Journal of Non-Crystalline Solids, 2005, 351, 2091-2101.	3.1	19
44	Phosphate laser glass for NIF: production status, slab selection, and recent technical advances. , 2004, , .		11
45	NIF Pockels cell and frequency conversion crystals. , 2004, , .		58
46	Effect of humidity during the coating of StÃ¶ber silica sols. Journal of Non-Crystalline Solids, 2004, 349, 368-376.	3.1	15
47	Characterization of Proton Exchange Layer Profiles in KD2PO4 Crystals by Micro-Raman Spectroscopy. Applied Spectroscopy, 2004, 58, 349-351.	2.2	33
48	Surface chemistry and trimethylsilyl functionalization of StÃ¶ber silica sols. Journal of Non-Crystalline Solids, 2003, 316, 349-363.	3.1	111
49	Anomalous temperature dependence of sub-critical crack growth in silica glass. Journal of Non-Crystalline Solids, 2003, 316, 174-182.	3.1	35
50	XAFS Investigation of Platinum Impurities in Phosphate Glasses. Journal of the American Ceramic Society, 2002, 85, 1093-1099.	3.8	15
51	<title>Dehydroxylation of phosphate laser glass</title>. , 2000, 4102, 175.		10
52	Development of continuous glass melting for production of Nd-doped phosphate glasses for the NIF and LMJ laser systems. , 1999, , .		2
53	Fail-safe design for square vacuum-barrier windows. , 1999, 3492, 740.		3
54	Subcritical Crack Growth in a Phosphate Laser Glass. Journal of the American Ceramic Society, 1999, 82, 3097-3104.	3.8	60

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55	Reversing Gels and Water Soluble Colloids from Aminosiloxanes. Journal of Sol-Gel Science and Technology, 1998, 13, 553-558.	2.4	4
56	Silylated Coumarin Dyes in Solâ^'Gel Hosts. 1. Structure and Environmental Factors on Fluorescent Properties. Chemistry of Materials, 1998, 10, 190-198.	6.7	115
57	Silylated Coumarin Dyes in Solâ^'Gel Hosts. 2. Photostability and Solâ^'Gel Processing. Chemistry of Materials, 1998, 10, 199-209.	6.7	66
58	<title>Control of porosity in SiO<formula><inf><roman>2</roman></inf></formula>:PDMS polycerams through variations in sol-gel processing and polymer content</title>. , 1997, , .		1
59	Molecular engineering and photostability of laser dyes within sol-gel hosts. , 1997, , .		9
60	Processing and photostability of pyrromethene 567 polycerams. Journal of Sol-Gel Science and Technology, 1997, 8, 953-958.	2.4	10
61	Photostability of silylated coumarin dyes in polyceram hosts. Journal of Sol-Gel Science and Technology, 1997, 8, 973-978.	2.4	14
62	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
63	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