Overcoming the quantum efficiency-lifetime tradeoff of photocathodes by coating with atomically thin two-dimensional nanomaterials

DOI: 10.1038/s41699-018-0062-6
Npj 2D Materials and Applications, 2018, 2, .

#	Paper	IF	Citations
20	Perspectives on Designer Photocathodes for X-ray Free-Electron Lasers: Influencing Emission Properties with Heterostructures and Nanoengineered Electronic States. *Physical Review Applied*, **2018**, 10,	4.3	27
19	From Electronic Structure to Design Principles for Photocathodes: Cu-Ba Alloys. *Physical Review Applied*, **2019**, 11,	4.3	1
18	Study on a long-life photocathode with an CsBr protective layer for an rf electron gun. *Japanese Journal of Applied Physics*, **2019**, 58, 066005	1.4	2
17	Structural and electronic properties of multifunctional carbon composites of organometal halide perovskites. *Journal of Materials Chemistry A*, **2019**, 7, 25020-25031	13	5
16	First-principles many-body study of the electronic and optical properties of CsKSb, a semiconducting material for ultra-bright electron sources. *Journal of Physics Condensed Matter*, **2019**, 31, 014002	1.8	11
15	Computational Screening of Atomically Thin Two-Dimensional Nanomaterial-Coated Cs3Sb Heterostructures for High-Performance Photocathodes. *Journal of Physical Chemistry C*, **2020**, 124, 26396-26403	3.8	2
14	Demonstration of nitrogen-incorporated ultrananocrystalline diamond photocathodes in a RF gun environment. *Applied Physics Letters*, **2020**, 117, 171903	3.4	1
13	The effects of oxygen-induced phase segregation on the interfacial electronic structure and quantum efficiency of CsSb photocathodes. *Journal of Chemical Physics*, **2020**, 153, 144705	3.9	7
12	Computational Screening of Photocathodes Based on Layered MXene coated Cs3Sb Heterostructures. *Wuli Xuebao/Acta Physica Sinica*, **2021**, 0-0	0.6	
11	Effect of vacancy defects on photoelectric properties of K2CsSb photocathode. *Optik*, **2021**, 232, 166555	2.5	1
10	Two-Dimensional Nanomaterials as Anticorrosion Surface Coatings for Uranium Metal: Physical Insights from First-Principles Theory. *ACS Applied Nano Materials*, **2021**, 4, 5038-5046	5.6	1
9	Ab Initio Quantum-Mechanical Predictions of Semiconducting Photocathode Materials. *Micromachines*, **2021**, 12,	3.3	2
8	Rapid thermal emittance and quantum efficiency mapping of a cesium telluride cathode in an rf photoinjector using multiple laser beamlets. *Physical Review Accelerators and Beams*, **2020**, 23,	1.8	4
7	Computational screening of two-dimensional coatings for semiconducting photocathodes. *Physical Review Materials*, **2020**, 4,	3.2	5
6	Theory of field emission from dielectric coated surfaces. *Physical Review Research*, **2020**, 2,	3.9	10
5	Theory of laser-induced photoemission from a metal surface with nanoscale dielectric coating. *Journal of Applied Physics*, **2022**, 131, 064903	2.5	1
4	Photoemission from Bialkali Photocathodes through an Atomically Thin Protection Layer.. *ACS Applied Materials & Interfaces*, **2021**,	9.5	2

3	Quantum Systems for Enhanced High Energy Particle Physics Detectors. *Frontiers in Physics*, 10,	3.9	1
2	Cesium intercalation of graphene: A 2D protective layer on alkali antimonide photocathode. **2022**, 10, 111115		1
1	Work function lowering of LaB6 by monolayer hexagonal boron nitride coating for improved photo- and thermionic-cathodes. **2023**, 122, 141901		0