**تقرير عن البحوث المنشورة والتي تخدم المجتمع وخاصة في مجال في مجال الطاقة الشمسية في كلية العلوم عن عام ٢٠٢٢م**

**تم نشر عدد خمس وثلاثون بحثا عن الطاقة الشمسية كلها بحوث مفهرسه في قواعد البيانات العلمية العالمية WoS**

**وكان تصنيفها كالتالي:**

| Q1 Top 10 | Q1 | Q2 | Q3 |
|---|---|---|---|
| 6 | 24 | 9 | 2 |
| 17.1% | 68.6% | 25.7% | 5.7% |

**الجدول التالي يحتوي على عناوين البحوث وتصنيفها وروابط النشر لكل بحث:**

| No. | Department | Article Title | Journal Name | Indexed In | Link or DOI | Journal Rank | Category Rank |
|---|---|---|---|---|---|---|---|
| 1 | Physics | Quantum chemical modification of indaceno dithiophene-based small acceptor molecules with enhanced photovoltaic aspects for highly efficient organic solar cells | RSC advances | WoS | DOI: 10.1039/D2RA05239C | 55/160 | Q1 |
| 2 | Physics | Enhancing the efficiency of Cu2Te thin-film solar cell with WS2 buffer layer: A simulation study | Optics and Laser Technology | WoS | https://doi.org/10.1016/j.optlastec.2022.108942 | 20/101 | Q1 |
| 3 | Physics | Environmentally compatible and highly improved hole transport materials (HTMs) based on benzotrithiophene (BTT) skeleton for perovskite as well as narrow bandgap donors for organic solar cells | Solar Energy | WoS | https://doi.org/10.1016/j.solener.2021.12.010 | 12/100 | Q1 |

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| 4 | Physics | Environmentally compatible and highly improved hole transport materials (HTMs) based on benzotrithiophene (BTT) skeleton for perovskite as well as narrow bandgap donors for organic solar cells | Solar Energy | WoS | https://doi.org/10.1016/j.solener.2021.12.010 | 12/100 | Q1 |
| 5 | Physics | Magnetic Ge:Mn nanocrystals grown by MBE on insulator substrate for solar cell and photodetector applications | Applied Surface Science | WoS | https://doi.org/10.1016/j.apsusc.2021.151644 | 44582 | Q1 |
| 6 | Physics | Quantum chemical study of end-capped acceptor and bridge on triphenyl diamine based molecules to enhance the optoelectronic properties of organic solar cells | Polymer | WoS | https://doi.org/10.1016/j.polymer.2022.124675 | 10/100 | Q1 |
| 7 | Chemistry | Solar energy conversion to electricity by Tris (2, 2′-bipyirdyl) ruthenium (II) chloride hexahydrate-diethyl ammonium tetrachloroferrate-oxalic acid photogalvanic cell: Statistical analysis | Journal of Molecular Liquid | WoS | https://doi.org/10.1016/j.molliq.2021.117824 | 13606 | Q1 |
| 8 | Physics | Investigation of the effect of hybrid CuO-Cu/water nanofluid on the solar thermal energy storage system | JOURNAL OF ENERGY STORAGE | WoS | https://doi.org/10.1016/j.est.2022.104675 | 28/114 | Q1 |
| 9 | Chemistry | Molecular Engineering Optimized Carbon Nitride Photocatalyst for CO2 Reduction to Solar Fuels | Journal of Science Advanced Materials and Devices | WoS | 10.1016/j.jsamd.2022.100483 | 0 | Q1 |
| 10 | Physics | Quantum chemical modification of indaceno dithiophene-based small acceptor molecules with enhanced photovoltaic aspects for highly efficient organic solar cells | RSC advances | WoS | DOI: 10.1039/D2RA05239C | 55/160 | Q1 |
| 11 | Physics | Energy conversion performance of porous ZrTe hybrid derived from chemical transformation of Zr(OH)4 | Fuel | WoS | https://doi.org/10.1016/j.fuel.2022.125264 | 29/119 | Q1 |
| 12 | Physics | Energy conversion performance of porous ZrTe hybrid derived from chemical transformation of Zr(OH)4 | Fuel | WoS | https://doi.org/10.1016/j.fuel.2022.125264 | 29/119 | Q1 |

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| 13 | Physics | Evaluation of d-block metal sulfides as electrode materials for battery-supercapacitor energy storage devices | Journal of Energy Storage | WoS | https://doi.org/10.1016/j.est.2022.105418 | 23/119 | Q1 |
| 14 | Physics | Evaluation of d-block metal sulfides as electrode materials for battery-supercapacitor energy storage devices | Journal of Energy Storage | WoS | https://doi.org/10.1016/j.est.2022.105418 | 23/119 | Q1 |
| 15 | Physics | Exploring the synergy of binder free MoWS2@ Ag as electrode materials for hybrid supercapacitors | Journal of Energy Storage | WoS | https://doi.org/10.1016/j.est.2022.105925 | 23/119 | Q1 |
| 16 | Chemistry | Facile hydrothermal synthesis of Dy-doped NiMnO3 nanoflakes as a highly stable electrode for energy conversion system | Journal of Sol-Gel Science and Technology | WoS | https://doi.org/10.1007/s10971-022-05953-3 | https://link.springer.com/article/10.1007/s10971-022-05953-3 | Q1 |
| 17 | Chemistry | Green synthesis of magnesium oxide nanosheets by using Citrullus colocynthis fruit extract and its use in biofuel production | Biomass and Bioenergy 167, 106640 | WoS | https://doi.org/10.1016/j.biombioe.2022.106640 | x | Q1 |
| 18 | Physics | Dynamic models for air-breathing and conventional polymer electrolyte fuel cells: A comparative study | RENEWABLE ENERGY | WoS | https://doi.org/10.1016/j.renene.2022.06.092 | 25/119 | Q1 |
| 19 | Physics | End-group Modification of terminal acceptors on benzothiadiazole-based BT2F-IC4F molecule to establish efficient organic solar cells | Journal of Molecular Liquids | WoS | https://doi.org/10.1016/j.molliq.2022.120770 | 13302 | Q1-Top 10% |
| 20 | Physics | Electrochemical performance of transition metal sulfide by employing different synthesis techniques for hybrid batteries | International Journal of Energy Research | WoS | doi:10.1002/er.8592 | 12420 | Q1-Top 10% |
| 21 | Physics | Ag2Se/SnTe nanorod as potential candidate for energy conversion system developed via hydrothermal route | Ceramics International | WoS | https://doi.org/10.1016/j.ceramint.2022.10.131 | 44649 | Q1-Top 10% |

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| 22 | Physics | Diffusion control and surface control mechanism in hierarchical nanostructured porous zinc-based MOF material for supercapattery | International Journal of Energy Research | WoS | https://doi.org/10.1002/er.8169 | 13881 | Q1-Top 10% |
| 23 | Physics | Diffusion control and surface control mechanism in hierarchical nanostructured porous zinc-based MOF material for supercapattery | International Journal of Energy Research | WoS | https://doi.org/10.1002/er.8169 | 13881 | Q1-Top 10% |
| 24 | Physics | Reduced graphene oxide/cobalt phosphate composites with improved electrochemical performance for supercapattery devices | International Journal of Energy Research | WoS | https://doi.org/10.1002/er.8636 | 18/196 | Q1-Top 10% |
| 25 | Physics | State of the art advancement in rational design of g-C3N4 photocatalyst for efficient solar fuel transformation, environmental decontamination and future perspectives | International Journal of Hydrogen Energy | WoS | https://doi.org/10.1016/j.ijhydene.2021.11.252 | 48/162 | Q2 |
| 26 | Physics | Synthesis and characterization of undoped and copper-doped zinc oxide nanowires for optoelectronic and solar cells applications | Applied Physics A volume | WoS | https://doi.org/10.1007/s00339-021-05155-8 | 77/160 | Q2 |
| 27 | Physics | The influential role of ITO heat treatment on improving the performance of solar cell n-ITO/p-Si junction: Structural, optical, and electrical characterizations | Materials Today Communications | WoS | https://doi.org/10.1016/j.mtcomm.2022.103272 | 25/125 | Q2 |
| 28 | Physics | Experimental and theoretical investigations on structural-function relationship of new iron (III) complex with 2-(Ammoniomethyl)pyridinium cation as ligand: A promising material for green solar cells | Journal of Molecular Structure | WoS | https://doi.org/10.1016/j.molstruc.2021.132051 | 23/72 | Q2 |
| 29 | Physics | The influential role of ITO heat treatment on improving the performance of solar cell n-ITO/p-Si junction: Structural, optical, and electrical characterizations | MATERIALS TODAY COMMUNICATIONS | WoS | https://doi.org/10.1016/j.mtcomm.2022.103272 | 165/334 | Q2 |
| 30 | Physics | Facile synthesis of rGO/PANI/ZnO ternary nanocomposites for energy storage devices | Journal of the Korean Ceramic Society | WoS | https://doi.org/10.1007/s43207-022-00250-9 | 44833 | Q2 |

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| 31 | Chemistry | A new cadmium oxide (CdO) and copper selenide (CuSe) nanocomposite: An energy-efficient electrode for wide-voltage hybrid supercapacitors | Colloids and Surfaces A: Physicochemical and Engineering Aspects | WoS | https://doi.org/10.1016/j.colsurfa.2022.130327 | 1 | Q2 |
| 32 | Physics | Structural characteristics and optical properties of methylcellulose/polyaniline films modified by low energy oxygen irradiation | Inorganic Chemistry Communications | WoS | https://doi.org/10.1016/j.inoche.2022.109502 | 0 | Q2 |
| 33 | Physics | Tunable decorated flake interlayers of functionalized graphene oxide for energy storage devices | APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING | WoS | https://doi.org/10.1007/s00339-022-05707-6 | 72/161 | Q2 |
| 34 | Physics | Solar Array Drive Assembly Disturbance Modeling, Jitter Analysis and Validation Tests for Precision Space-Based Operations | Journal of Vibration Engineering & Technologies | WoS | https://link.springer.com/article/10.1007/s42417-022-00688- | 75/137 | Q3 |
| 35 | Mathmatic | Determination of an Energy Source Term for Fractional Diffusion Equation | Journal of Sensors | WoS | https://doi.org/10.1155/2022/7984688 | 120/270 | Q3 |