

كلية العلوم مكتبة قسم الفيزياء

بيان برسائل الماجستير والدكتوراه التي اجازتها الجامعة خلال عام 2025

Summary	Pages	Size	Year	Supervisor	Theses	Title	ID	Name	م
<p>This work demonstrates successful optimization that has led to improved capacitance for supercapacitor applications, and good results in other configurations where in recent years, transition metal cobaltite has become a research hotspot in the field of electrochemistry due to its natural abundance, safety, and low cost. Transition metal cobaltite imparts qualities such as heat resistance, high strength, wear resistance, and high magnetism to the materials formed. The chemical formula of spinel, and 4O2cobaltite is ACo the multidimensional morphological structures of t</p>	158 p.	24 cm.	2025	Abdulaziz Abualfadi Abdulaziz, Abd el-Hamid AboEladab Abu-Sehly, Ghada Abbady Elsayed .Abbady	master	Fabrication, characterization studies, and supercapacitors investigation of spinel cobaltite nanostructures doped with transition metal ions for energy storage applications	13153195	Heba Reda Abd-Alaal Mansour	1

<p>This study examines the structural, FTIR spectra, dye adsorption, optical, and magnetic properties of $-x$ and $1(\text{CuO})_x/(\text{BC})$ $-1(\text{ZnO})_x/(\text{BC})$ nanocomposite series (NCs) with various x values ($0.00 < x < 1.00$). Biochar (BC) was synthesized via the thermal decomposition of banana peels, whereas the coprecipitation and impregnation methods were utilized to synthesize $-x$ and $1(\text{CuO})_x/(\text{BC})$ $-x$ NCs, $1(\text{ZnO})_x/(\text{BC})$ respectively. The considered NCs were examined by X-ray diffraction (XRD), transmission electron microscopy (TEM), Fourier-transform infrared spectroscopy (FTIR), Brunauer–Emmett–Teller (BET), dynamic light scattering (DLS), UV double-beam spectrophotometer (DBS), and vibrating sample magnetometry (VSM). It was</p>	121 p.	24c m.	2025	<p>Suzan AbdelWahab Amin, Ahmed Sedky Mohamed, Essam Fadl Abo Zeid, Mohamed Abd El-Aal Abd El- .Rahman</p>	master	<p>Synthesis and Study some Properties of Biochar- Based Nanocomposites for Water Purification, and Optoelectronic and / Spintronic Devices</p>	13136626	<p>Reem Alaa Eldin Essa Hassan</p>	2
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<p>e report here a comparative study between the structural, FTIR spectra, optical, and magnetic properties of two nanocomposites series -1(NCs) from (ZnSn) $x\text{Co}_x\text{O}$ (Co-series) and $x\text{Cu}_x\text{O}$ (Cu-series) 1(ZnSn) with various x values). The current $0.50 \leq x \leq 0.00$ (NCs are prepared by the low-cost hydrothermal method and characterized by x-ray diffraction (XRD), scanning and tunneling electron microscopes (SEM, TEM), and Fourier transform infrared (FTIR) techniques. While their optical and magnetic measurements were obtained using double-beam UV-spectroscopy and a vibrating sample magnetometer. For more clarification for the study, similar synthesis, characterizations, and measurements have been done also</p>	.p116	24.c m	2025	Ahmed Sedky Mohamed, Naser Mohamed Affiy	master	Synthesis and Study Some of Properties of $x\text{M}_x\text{O}$ 1(ZnSn) Nanocomposites with M= Co, Cu and various x / ($0.5 < x < 0.00$ values (13134338	Ahmed Abbas Ahmed Ahmed
Nanophotonic technologies, focusing on light emission, control, and propagation at	138.p	24.c m	2025	Mohamed Almokhtar Mohamed,	master	Trapping and Manipulation of Light in Designed Topological	13134024	Zeinela bedin Aly

<p>the nanoscale, have gained attention due to their high-speed potential, compactness, energy efficiency, confinement, and low losses. Through these structures with sub-wavelength-scale, light can emerge a new technology, such as high-resolution imaging, neuromorphic applications, highly sensitive diagnostics, - nonlinear photonics</p>				<p>Alaa Mahmoud Abd-Elnaiem, Elsayed Soliman .Elshahat</p>		<p>Photonic Crystal</p>		<p>Mohamed Mohamed</p>
<p>Water pollutants, particularly synthetic dyes and toxic organic compounds, represent one of the most pressing environmental challenges due to their chemical stability and resistance to conventional degradation methods. As the need for efficient and sustainable treatment solutions grows, nanomaterials, especially transition metal oxides, have emerged as promising candidates owing to their unique properties, including high surface</p>	175.p	24.c m	2025	<p>Essam Fadl Abo Zeid Moussa, Abdel- Hamid AbuEladab- Abu Sehly, Mohamed d Abd El - Aal Abd El- .Rhman</p>	master	<p>Synthesis, and characterization of pure and doped cobalt oxide nanocomposites for catalytic and antibacterial applications</p>	13144401	<p>Fatma Mahmoud Hamed Obiedallah</p>

<p>investigation into heterojunctions formed between metal sulfides/oxides and metal-organic frameworks (MOFs) for advanced energy storage and photocatalytic applications. The escalating global demand for efficient and sustainable energy storage solutions has catalyzed significant research interest in supercapacitors (SCs), both in industrial and academic sectors.</p>	142.p	24.cm	2025	<p>Abdelaziz Abuelfadl Abdelaziz, Abdelhamid Abu-Eladab Abu-Sehly, Mohamed Rashad Ahmed, Mohaned Mohammed Mahmoud</p>	master	<p>Study the characteristics of Hetero Junctions between Metal Organic) 66Frameworks (UiO- and Transition Metals Compounds (Mo,Ni) for Energy Storage and Photocatalytic / Applications</p>	13131225	<p>Sherouk Sherif Ahmed Hamza El-Sonbat ; y</p>
<p>this study demonstrate the successful
 hydrothermal synthesis of Zn Composite 4O 2-x NIX co1 with well -defined cubic spinel structure</p>	211.p	24.cm	2025	<p>DR.Alaa mahmoud abd Elnaiem, DR.Mostafa Abdel-nasim Abdel- Rahim,DR. Atta Yousef
 Abdullahtif Mohamed, DR.Nagih Mohammed</p>	master	<p>Synthesis, characterization and electrochemical -x Nix 1properties of Zn nanocomposites 2O 2Co</p>	13156593	<p>Ahmed Abdelr ahim Moham ed Husse in</p>
<p>In the last few decades,considerable attention has been paid to the synthesis of nano-size materials .Among these</p>	136.p	24 cm.	2025	<p>DR.aly abd el hameed,dr Mohamed abd megeed ibrhim</p>	master	<p>synthesis, characterization and some applications of CuO nanoparticles</p>	13156687	<p>Esraa Moham ed Abd Elhake mm</p>

materials transition metal oxides (TMOs) are great interest owing to their .TMOs								Moham ed	
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