

Energy Storage Discussions 2023

Poster session		Thursday, November 16th, 11:00 - 13:30	
ID	Name of the work	Authors	Institutions
ESD2023_2	Synthesis of δ -MnO ₂ by electro-oxidation of Mn ₂ O ₄ in Na ₂ SO ₄ electrolyte	P. J. Pérez-Díaz, J.M. Bass López, Y. Esqueda-Barrón, A.K. Cuentas-Gallegos, D.E. Pacheco-Catalán	Centro de Investigación Científica de Yucatán
ESD2023_4	A DFT investigation : Hydrogen storage in metal-decorated doped germanene	Akari Narayama Sosa, Álvaro Miranda, Luis Antonio Pérez, Gregorio Hernández Cocoletzi, Miguel Cruz-Irisson	IPN-ESIME and Instituto de Física, BUAP
ESD2023_5	Synthesis and characterization of lithium complex oxide powders for application in Li-Ion batteries	Sael Beltran Torres, Rafael García Gutiérrez	Departamento de Investigación en Física, Universidad de Sonora
ESD2023_7	High-performance supercapacitors using biocarbon:bismuth oxide composites as active materials	S. Mena Picón, J.A. Díaz-Guillén, I.L. Alonso-Lemus, F.J. Rodríguez Valera	Tecnológico Nacional de México, Instituto Tecnológico de Saltillo
ESD2023_8	High-performance supercapacitors based on sewage sludge-derived biocarbon	S. Ravichandram, I.L. Alonso-Lemus, B. Escobar-Morales, F.J. Rodríguez Varela	Nanociencias y Nanotecnología, CINVESTAV Saltillo
ESD2023_10	Determination of structural, electronic and optical properties of β -NaFeO ₂ ferrites doped with Ni and Cu: a joint experimental and theoretical study	Nayeli Gómez-Garduño, Daniel G. Araiza, Christian A. Celaya, Jesús Muñiz and Heriberto Pfeiffer	Instituto de Ciencias Aplicadas y Tecnología, UNAM
ESD2023_11	Evaluation of Fe/Co nitrogen-doped subbituminous coal from Coahuila as electrodes of supercapacitors	C.D. Manuel-Ramírez, I.L. Alonso-Lemus, J.C. Martínez-Loyola, M.Z. Figueroa Torres, F.J. Rodríguez-Valera, M.E. Sánchez Castro	Sustentabilidad de los Recursos Naturales y Energía, CINVESTAV Saltillo
ESD2023_12	ZnCo ₂ O ₄ /SSB (sewage sludge-derived biocarbon) composite as electrode material for supercapacitors applications	M.O. Fuentes-Torres, B. Escobar-Morales, I.L. Alonso-Lemus, F.J. Rodríguez-Varela	Nanociencias y Nanotecnología, CINVESTAV Saltillo
ESD2023_13	Understanding the mechanism of alkali ion intercalation into δ -MnO ₂ structure: A combined experimental and theoretical study	Jorge Alejandro Manzo Mendoza, Christian A. Celaya, Yasmín Esqueda-Barron and Ana Karina Cuentas Gallegos	Centro de Nanociencias y Nanotecnología, UNAM
ESD2023_14	Electrochemical performance influenced by size dispersion of Fe ₃ O ₄ synthesized via thermal decomposition	M. Molina, J. López and K. Cuentas	Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE).
ESD2023_16	Carbon black-surfactant dispersion for negative electrodes	V. García, V. Garza, P. Cárdenas, D. Hernandez and S. Martinez	Clarios México
ESD2023_17	Theoretical modelling of porous silicon decorated with metal atoms for hydrogen storage	I. González, F. de Santiago, L.G. Arellano, A. Miranda, A. Trejo, F. Salazar and M. Cruz-Irisson	Instituto de Energías Renovables, UNAM
ESD2023_18	Sodium effects on the electronic and structural properties of porous silicon for energy storage	I. González, J. Pilo, A. Trejo, A. Miranda, F. Salazar, R. Nava and M. Cruz-Irisson	Instituto de Energías Renovables, UNAM
ESD2023_20	Functionalization of Single-Wall Carbon Nanotubes via Diazonium Chemistry: Insights from DFT Calculations and physicochemical characterizations	Elizabeth Fernandez-García, Christian Celaya-López, Yasmín Esqueda-Barrón, José M. Romo-Herrera, Jesus Muñiz, Ana Karina Cuentas-Gallegos	Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE).
ESD2023_21	MnO ₂ thin film deposited in conductor substrate for energy storage applications.	Y. Esqueda-Barrón and A.K. Cuentas-Gallegos	Centro de Nanociencias y Nanotecnología, UNAM
ESD2023_22	Carbon electrodes obtained of lignocellulosic and biomass compounds by selective laser pyrolysis.	Y. Esqueda-Barrón, I. Valdez, E. Aguilar, A.K. Cuentas-Gallegos	Centro de Nanociencias y Nanotecnología, UNAM
ESD2023_23	Producción de combustible solar a partir de un proceso termoquímico en un reactor Auger	N.A. Cisneros-Cárdenas, C.A. Estrada-Gasca and C.A. Pérez-Rábago	Instituto de Energías Renovables, UNAM
ESD2023_25	Effect of the carbonization temperature of N/O-codoped electrospun carbon nanofibers on the performance anodes of sodium ion batteries	M.G. Ayala-Sánchez, L.A. Rodríguez-Guadarrama, I.L. Alonso-Lemus and J. Escorcia-García	CINVESTAV del IPN, Unidad Saltillo
ESD2023_26	Tuning the Supercapacitance of PEDOT:PSS with the Molecular Weight of the Macromolecular Dopant PSS	R. Mirón-Velázquez, C.St. Thomas, J.G. Ramos-Sanchez, J.J. Alcaraz-Espinoza and I. Gonzalez	Centro de Investigación en Química Aplicada, Departamento de Procesos de Polimerización. UAM, Grupo de Almacenamiento de Energía

ESD2023_29	N-doped subbituminous coal from Coahuila as anode of sodium-ion rechargeable batteries	C.A. Hernández-Siller, I.L. Alonso-Lemus and M.Z. Figueroa-Torres	Sustentabilidad de los Recursos Naturales y Energía, CINVESTAV Saltillo
ESD2023_30	A Cationic Poly (Ionic Liquid) as multifunctional binder for Lithium-Sulfur Batteries.	A. Hernández-Sánchez, José Jarib Alcaraz-Espinoza, G. Ramos Sánchez, C St Thomas, I. González	Departamento de Química, UAM
ESD2023_31	Evaluation of lithium manganese oxide cathodes doped with aluminum and niobium for lithium-ion batteries.	Luis Antonio Solís-Balderas, Salomé Maribel de la Parra-Arciniega, Jesús Guzmán-Torres, Luis Carlos Torres-González, Eduardo M. Sánchez-Cervantes	Facultad de Ciencias Químicas, UANL
ESD2023_32	Study of lithium cuprate modified with metal ions as an alternative cathode for lithium-ion batteries	A. García-Carrillo, M.A. Martínez-Cruz, G. Ramos-Sánchez and I. González	Departamento de Química, UAM
ESD2023_33	Supramolecular chitosan binder for lithium sulphur batteries	A. Mayrén, I. González and G. Ramos	Departamento de Química, UAM
ESD2023_34	Electron withdrawal and structural design key to ionic conductivity enhancement in polymers based on tetra-coordinated boron atoms	P. E. Pedro-Cruz, G. Ramos-Sánchez, I. González and G. Guzmán-González	Departamento de Química, UAM
ESD2023_35	Pulse electrodeposition of crystalline structures of MnO ₂ for electrochemical capacitors	Roxana Berlanga Pérez, Johanna García Montemayor, Javier Osvaldo Terán Carlin, Emilio Antonio García Montes, Jorge Zúñiga Martínez and Raúl Lucio Porto	Facultad de Ingeniería Mecánica y Eléctrica, UANL
ESD2023_36	Investigating the Role of Oxygen Vacancies in Manganese Oxide Thin Films for Enhanced Energy Storage	C. Bohórquez, Y. Esqueda and A.K. Cuentas	Centro de Nanociencias y Nanotecnología, UNAM
ESD2023_37	The effect of adding MgO nanostructures to a magnesium polymer electrolyte	Y. Gonzalez, E. Gonzalez, A.J. Guzman, M. Estrada-Villegas, A. Espinoza-Roa and E. Sanchez	Facultad de Ciencias Químicas, UANL
ESD2023_39	Raman Characterization of thin-layer Fe ₃ O ₄ by AP-CVD for energy storage applications	V. Parra-Elizondo, Abril Álvarez, Erick Hipolito, D. Pacheco-Catálan	Centro de Investigación Científica de Yucatán
ESD2023_40	Synthesis of LISICON-like lithium copper (I) phosphate and its evaluation as cathode for LIBs	Sergio Alfonso Garcia-Mata, Salomé Maribel de la Parra-Arciniega, Jesús Guzmán-Torres and Eduardo Maximiano Sánchez-Cervantes	Facultad de Ciencias Químicas, UANL
ESD2023_41	Nanoporous carbon fibers obtained by incomplete combustion of cotton fabric waste	I.L. Alonso-Lemus, F.J. Rodríguez-Varela, C.R. García and M.A. Garcia-Lobato	Sustentabilidad de los Recursos Naturales y Energía, CINVESTAV Saltillo
ESD2023_42	The first principal study focuses on the interface between perovskite materials and various carbon allotropes for potential applications in photosupercapacitors	J. Muñoz-Soria and A. Gómez-Coronel	Instituto de Energías Renovables, UNAM
ESD2023_43	Single lithium-ion conducting binders for high voltage LNMO electrodes studied through X-ray photoelectron spectroscopy (XPS)	J. Olmedo-González, L. Lartundo-Rojas, R. de G. González-Huerta and G. Ramos-Sánchez	IPN-ESIQIE and UAM
ESD2023_45	Sustainable batteries with carbonaceous materials obtained from biomass, in-situ spectroscopic study of intercalation processes	G. Rojas, J. Mendoza and G. Ramos	Departamento de Electroquímica, UAM
ESD2023_46	Charge transfer of Li, Na, K, and S ions in the electrolyte using Fe ₃ O ₄ and MnO ₂ surfaces as electrodes in a supercapacitor: A DFT study	Cornelio Delesma, Orlando Castro-Ocampo, Christian A. Celaya and Jesús Muñoz	Instituto de Energías Renovables, UNAM
ESD2023_47	Electronic properties of Magnetite (Fe ₃ O ₄) and transfer Mechanisms of ions at its surface	O. Castro-Ocampo, Jesús Muñoz, Cornelio Delesma and Christian A. Celaya	Instituto de Energías Renovables, UNAM
ESD2023_48	Understanding Li interaction in TiO ₂ /graphene composites for high performance Li-ion battery anodes: A first principles study	Abdel Ghafour El Hachimi, Jesús. A. Jiménez-Juárez, Christian A. Celaya, Dage Sundholm, Pekka Pyykko and Jesús Muñoz Soria	Instituto de Energías Renovables, UNAM

ESD2023_49	First principles study of the energy storage properties of the α -MnO ₂ /functionalized-graphene interface	Jesús A. Jiménez-Juárez, Christian A. Celaya and Jesús Muñiz Soria	Instituto de Energías Renovables, UNAM
ESD2023_50	Enhancing the performance of pyrolusite MnO ₂ in supercapacitors by solid state incorporation of potassium cations	E. López, K. Chávez and E. Quiroga-Gonzalez	Facultad Ciencias de la Electrónica, BUAP
ESD2023_51	Sulfur and Nitrogen-Doped Multiwalled Carbon Nanotubes and Graphene for Supercapacitors	Yoxkin Estévez-Martínez, Enrique Quiroga-González, Erick Cuevas-Yañez and Víctor Castaño-Meneses	Instituto Tecnológico Superior de Acatlán de Osorio, TecNM
ESD2023_52	Energy production from biomass	Carolina Pano-Azucena, Javier A. Arcibar-Orozco, Liliana E. Arrvizu-Rodriguez and Oscar E. Valdivia-Moreno	CIATEC
ESD2023_55	Operando Raman spectroscopy of supercapacitors of carbon-coated Fe ₃ O ₄ films	K. Chávez, B. Capilla and E. Quiroga-González	Instituto de Física, BUAP
ESD2023_56	Tuning the electrochemical performance of manganese oxides used as the active material of Li-ion batteries by thermal treatments: phase changes	M. L. Barrios-Reyna and E. Quiroga-González	Instituto de Física, BUAP
ESD2023_57	Metallurgical grade silicon as electrode material of lithium-ion batteries	J. Rojas and E. Quiroga-González	Facultad Ciencias de la Electrónica, BUAP
ESD2023_58	Aqueous supercapacitors with extended operation voltage range through polyelectrolyte coating	X. León, César Márquez-Beltrán and E. Quiroga-González	Instituto de Física, BUAP
ESD2023_59	Novel MgC ₂ O ₄ cathode material for its application in Mg ²⁺ /Li ⁺ hybrid ion batteries: Synthesis and electrochemical performance	J. Guzmán-Torres, E. González-Juárez, L.L. Garza-Tovar and E.M. Sánchez-Cervantes	Facultad de Ciencias Químicas, UANL
ESD2023_60	Implicit solvent effect on the binding energy of the functional groups with impact in Li-S batteries	A. Ochoa-Calle, G. Ramos-Sanchez and I. Gonzalez	UAM
ESD2023_61	Unveiling the Charging/Discharging Mechanisms of Calcium carbonate and calcium hydroxide as High Performing Electrodes of Sustainable Lithium-Ion Batteries	E. Tecpa-Flores and E. Quiroga-González	Instituto de Física, BUAP
ESD2023_63	Solar reactor for the concentration of lithium carbonate	B. Falcón-Varela, C. Pérez-Rábago, R. Pérez-Enciso and P. Zavala-Rivera	Instituto de Energías Renovables, UNAM
ESD2023_64	Electrochemical and recycling protocols to guarantee the second life of lithium-ion batteries and the obtention of "Black mass"	D. Alba, S. Rodriguez, R. Pérez, H. Ávila, R. Suárez and G. Ramos	Departamento de Química, UAM
ESD2023_65	Nail Perforation Tests for the Pretreatment of Spent Lithium-Ion Batteries	O. Sánchez-Dena, A.E. Grado-Zubiate and R. Farías	Consejo Nacional de Humanidades, Ciencias y Tecnologías CONAHCYT, Instituto de Ingeniería y Tecnología, Universidad Autónoma de Ciudad Juárez
ESD2023_66	Bi ₂ O ₃ /coal-based composites as supercapacitor electrodes	S. O Mena-Picón, J. A. Díaz-Guillen, F.J. Rodríguez-Varela and I.L. Alonso-Lemus	Tecnológico Nacional de México, Instituto Tecnológico de Saltillo
ESD2023_68	Development of graphene nanobuds for energy storage: lithium-ion batteries and supercapacitors	I. Zeferino Gonzalez, A. M. Valenzuela Muñiz and R. Gauvin Y. Verde Gómez	Tecnológico Nacional de México, campus Cancún
EDS2023_69	β -FeOOH and α -Fe ₂ O ₃ as ELECTROACTIVE MATERIALS FOR BIOSUPERCAPACITORS	Eva Paola Zamora Gutiérrez, Roxana Berlanga Pérez, Francisco Javier Mendoza Martínez, Emilio Antonio García Montes, Johanna García Montemayor, Javier Osvaldo Terán Carlin, Jorge Alexis Zuñiga Martínez	Univesidad Autónoma de Nuevo León, Facultad de Ingeniería Mecánica y Eléctrica
EDS2023_70	Layered vanadium phosphate with Cu ions in the interlayer space: Inducing faradaic behavior.	Jorge Alexis Zuñiga Martinez, Raúl Lucio Porto, Domingo Ixcoalt García Gutiérrez, Thierry Brousse	Univesidad Autónoma de Nuevo León, Facultad de Ingeniería Mecánica y Eléctrica