

DEPARTAMENTO DE
MECANICA DE MEDIOS
CONT.Y T. ESTRUCTURAS

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ESTRUCTURAS**

Áreas de conocimiento:

- MECANICA MEDIOS CONTINUOS Y TEORIA ESTRUCTURAS

ÁREA DE CONOCIMIENTO: MECANICA MEDIOS CONTINUOS Y TEORIA ESTRUCTURAS

Actividades de investigación

Tesis Doctorales

- Análisis y modelización de estructuras sandwich sometidas a cargas impulsivas
Autores: BUITRAGO, B.
Director: BARBERO, E.
Año: 2012

- Caracterización mecánica de espumas metálicas y su aplicación en sistemas absorción de energía
Autores: IRAUSQUIN, I.A.
Director: PEREZ-CASTELLANOS, J. L.
Año: 2012

Publicaciones y actividades de difusión de resultados

Publicaciones en revistas científicas internacionales

- ARANDA, J.; FERNANDEZ-SAEZ, J.
On the use of variable-separation method for the analysis of vibration problems with time-dependent boundary conditions, *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, Vol 226, 2012, pp 2912-2924. REINO UNIDO.

- ARANDA, J.; LOYA, J. A. ; FERNANDEZ-SAEZ, J.
Bending vibrations of rotating nonuniform nanocantilevers using the Eringen nonlocal elasticity theory, *Composite Structures*, Vol. 94, Núm. 9, 2012, pp. 2990-3001, HOLANDA.

- GARCIA-CASTILLO, S.K.; SÁNCHEZ-SÁEZ, S. ; BARBERO, E.
Influence of areal density on the energy absorbed by thin composite plates subjected to high-velocity impacts, *Journal of strain analysis for engineering design*, Vol. 47, 2012, pp. 444-452, REINO UNIDO.

- GARCIA-CASTILLO, S.K.; SÁNCHEZ-SÁEZ, S. ; BARBERO, E.
Nondimensional analysis of ballistic impact on thin woven laminate plates, *International journal of impact*

engineering, Vol. 39, Núm. 1, 2012, pp. 8-15, REINO UNIDO.

- GONZALEZ-LOPEZ, S.; FERNANDEZ-SAEZ, J.
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- LÓPEZ-PUENTE, J. ; LI, S.
Analysis of strain rate sensitivity of carbon/epoxy woven composites, *International journal of impact engineering*, Vol. 48, 2012, pp. 54-64, REINO UNIDO.
- MOCKO, W.; KOWALEWSKI, Z.L.; RODRÍGUEZ-MARTÍNEZ, J.A.; RUSINEK, A.
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- OLMEDO, A.; SANTIUSTE, C.
On the prediction of bolted single-lap composite joints, *Composite Structures*, Vol. 94, Núm. 6, 2012, pp. 2110-2117, HOLANDA.
- PEREZ-CASTELLANOS, J. L. ; RUSINEK, A.
Temperature increase associated with plastic deformation under dynamic compression: application to aluminium alloy al 6082, *Journal of Theoretical and Applied Mechanics*, Vol. 50, Núm. 2, 2012, pp. 377-398, POLONIA.
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Numerical modeling of ice behavior under high velocity impacts, *International Journal of Solids and Structures*, Vol. 49, Núm. 14, 2012, pp. 1919-1927, ESTADOS UNIDOS DE AMERICA.
- RUBIO, L. ; FERNANDEZ-SAEZ, J.
A new efficient procedure to solve the nonlinear dynamics of a cracked rotor, *Nonlinear dynamics*, Vol. 70, 2012, pp. 1731-1745, HOLANDA.
- SANTIUSTE, C. ; OLMEDO, A.; SOLDANI, X.; MIGUELEZ, M.H.
Delamination prediction in orthogonal machining of carbon long fiber-reinforced polymer composites, *Journal of reinforced plastics and composites*, Vol. 31, Núm. 13, 2012, pp. 875-885, REINO UNIDO.
- SCHIAVONI, E.; SCARPONI, C.; SÁNCHEZ-SÁEZ, S. ; BARBERO, E. ; SARASINI, F.
Polypropylene/Hemp Fabric Reinforced Composites: Manufacturing and Mechanical Behaviour, *Journal of biobased materials and bioenergy*, Vol. 6 n° 4, 2012, pp. 361-369, ESTADOS UNIDOS DE AMERICA.
- VADILLO, G. ; LOYA, J. A. ; FERNANDEZ-SAEZ, J.
First order solutions for the buckling loads of weakened Timoshenko columns, *Computers and mathematics with applications*, Vol. 64, 2012, pp. 2395-2407, REINO UNIDO.
- VADILLO, G. ; RODRÍGUEZ-MARTÍNEZ, J.A.; FERNANDEZ-SAEZ, J.
On the interplay between strain rate and strain rate sensitivity on flow localization in the dynamic expansion of ductile rings, *International Journal of Solids and Structures*, Vol. 49, Núm. 03-abr, 2012, pp. 481-491, ESTADOS UNIDOS DE AMERICA.
- VARAS, D. ; LÓPEZ-PUENTE, J. ; ZAERA, R.
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Numerical modelling of partially filled aircraft fuel tanks submitted to Hydrodynamic Ram, *Aerospace Science and Technology*, Vol. 16, Núm. 1, 2012, pp. 19-28, ALEMANIA.

- ZAERA, R.; RODRÍGUEZ-MARTÍNEZ, J.A.; CASADO, A.; FERNANDEZ-SAEZ, J. ; RUSINEK, A.; PESCI, R.
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Colaboraciones en obras colectivas

- CANTELI, J. A. ; CASTILLO, E.; FERNANDEZ-SAEZ, J. ; FERNANDEZ, D.; GINER, E.
Plane Stress at the Crack Front: A Case Incompatible with Linear Elastic Fracture Mechanics, en: Issues on Mechanical and Civil Engineering: A Symposium to Honour Professor Enrique Alarcón, (1ª ed.), Universidad Politécnica de Madrid (UPM), ESPAÑA, pp. 347-360, 2012.
- MIGUELEZ, M.H.; SANTIUSTE, C. ; SOLDANI, X.; LOYA, J. A.
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- SANTIUSTE, C. ; SOLDANI, X.; LÓPEZ-PUENTE, J. ; MIGUELEZ, M.H.
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Ponencias y Comunicaciones a congresos

- ARANDA, J.; LOYA, J. A. ; FERNANDEZ-SAEZ, J.
On the Use of Variable-Separation Method for the Analysis of Vibration Problems with Time-Dependent Boundary Conditions; en: Proceedings of the Institution of Mechanical Engineers. Part C Journal of Mechanical Engineering Sci, 2012.
- ARANDA, J.; LOYA, J. A. ; FERNANDEZ-SAEZ, J.
Bending vibrations of rotating nanocantilevers using the Eringen nonlocal elasticity theory; en: Proceedings of the International Conderence on Mechanics of Nano, Micro and Macro Composite Structures, 2012.
- ARTERO, J.A.; PERNAS, J.; VARAS, D. ; ZAERA, R.; LÓPEZ-PUENTE, J.
Numerical Modeling of Woven CFRP Partially Fluid Filled Tubes to High Velocity Impacts , International Conference on Mechanics of Nano, Micro and Macro Composite Structures, *Turín*, ITALIA, 2012.
- CANTELI, J. A. ; GINER, E.; FERNANDEZ, D.; FERNANDEZ-SAEZ, J.
A unified analysis of the in-plane and out-of-plane constraints in 3-D linear elastic fracture mechanics, 19th Conference on FractureKazán , 2012.
- FERNANDEZ-SAEZ, J. ; GINER, E.; FERNANDEZ, D.; LOYA, J. A. ; CANTELI, J. A.
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- GARCIA, P.A.; VERA, M. ; IGLESIAS, I. ; ZAERA, R.
Modelado del ánodo de una pila DMFC: flujo multifásico y efectos de la compresión no homogénea de ensamblaje , CONAPPICE 2012 Congreso Nacional de Pilas de Combustible, *MADRID*, ESPAÑA, 2012.
- GINER, E.; FERNANDEZ , D.; FERNANDEZ-SAEZ, J. ; FERNANDEZ, A.
Análisis de la zona de constricción transversal en placas fisuradas de distintos espesores y comparación con el tamaño de zona plástica ; en: anales de Mecánica de la Fractura , , 2012.

- LOYA, J. A. ; FERNANDEZ-SAEZ, J.
Fracture properties determination on PMMA beams in three-point bending tests, 38th Solid Mechanics Conference (SolMech), Warsaw, POLONIA, 2012.
- MOURE, M.M.; SANTIUSTE, C. ; BARBERO, E.
On the modelling of ductile composite under low-velocity impact , International Conference on Mechanics of Nano, Micro and Macro Composite Structures, Turín, ITALIA, 2012.
- OLMEDO, A.; SANTIUSTE, C. ; BARBERO, E.
Influence of out-of-plane stresses on failure prediction of composite bolted joints, 15 th European Conference on Composite Materials (ECCM15), Venecia, ITALIA, 2012.
- PERNAS, J.; ARTERO, J.A.; VARAS, D. ; LÓPEZ-PUENTE, J.
Numerical Modeling of High Velocity Impacts on Composite Laminates, International Conference on Mechanics of Nano, Micro and Macro Composite Structures, Turín, ITALIA, 2012.
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- RODRÍGUEZ-MARTÍNEZ, J.A.; RUSINEK, A.; PESCI, R.; ZAERA, R.
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- ZAERA, R.; RODRÍGUEZ-MARTÍNEZ, J.A.; RITTEL, D.
Modeling the train induced martensitic transformation under impact and its influence on the Taylor-Quinney coefficient; en: Book of Abstracts of the 38th Solid Mechanics Conference, Institute of Fundamental Technological Research (IPPT) Polish Academy of Sciences, 2012.
- ZAHR, J.A.; PEREZ-CASTELLANOS, J. L.
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- ZAPITELLI, M.P.; BRAUN, M.; VILLA, E.I.; FERNANDEZ-SAEZ, J.; ROCCO, C.G.
Expresiones del factor de intensidad de tensiones para fisuras sometidas a la presión hidrostática en presas de hormigón; en: Anales de Mecánica de la Fractura, Vol 29 , pp 713-718, 2012.

Actividades de formación y movilidad de personal investigador

Estancias de investigadores externos en la universidad

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