Eugenio Oate Ibaez de Navarra

List of Publications by Citations

391 papers	13,512 citations	55 h-index	102 g-index
424 ext. papers	15,138 ext. citations	3.4 avg, IF	6.69 L-index

#	Paper	IF	Citations
391	A plastic-damage model for concrete. *International Journal of Solids and Structures*, **1989**, 25, 299-326	3.1	2043
390	A FINITE POINT METHOD IN COMPUTATIONAL MECHANICS. APPLICATIONS TO CONVECTIVE TRANSPORT AND FLUID FLOW **1996**, 39, 3839-3866		551
389	The particle finite element method: a powerful tool to solve incompressible flows with free-surfaces and breaking waves. *International Journal for Numerical Methods in Engineering*, **2004**, 61, 964-989	2.4	310
388	THE PARTICLE FINITE ELEMENT METHOD – AN OVERVIEW. *International Journal of Computational Methods*, **2004**, 01, 267-307	1.1	295
387	Flow of solids during forming and extrusion: Some aspects of numerical solutions. *International Journal of Solids and Structures*, **1978**, 14, 15-38	3.1	251
386	A stabilized finite point method for analysis of fluid mechanics problems. *Computer Methods in Applied Mechanics and Engineering*, **1996**, 139, 315-346	5.7	248
385	An Object-oriented Environment for Developing Finite Element Codes for Multi-disciplinary Applications. *Archives of Computational Methods in Engineering*, **2010**, 17, 253-297	7.8	203
384	Combination of discrete element and finite element methods for dynamic analysis of geomechanics problems. *Computer Methods in Applied Mechanics and Engineering*, **2004**, 193, 3087-3128	5.7	185
383	Derivation of stabilized equations for numerical solution of advective-diffusive transport and fluid flow problems. *Computer Methods in Applied Mechanics and Engineering*, **1998**, 151, 233-265	5.7	174
382	Advances in the particle finite element method for the analysis of fluid–multibody interaction and bed erosion in free surface flows. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 1777-1800	5.7	174
381	The meshless finite element method. *International Journal for Numerical Methods in Engineering*, **2003**, 58, 893-912	2.4	160
380	Unified Lagrangian formulation for elastic solids and incompressible fluids: Application to fluid–structure interaction problems via the PFEM. *Computer Methods in Applied Mechanics and Engineering*, **2008**, 197, 1762-1776	5.7	155
379	Discrete element simulation of rock cutting. *International Journal of Rock Mechanics and Minings Sciences*, **2011**, 48, 996-1010	6	135
378	Rotation-free triangular plate and shell elements. *International Journal for Numerical Methods in Engineering*, **2000**, 47, 557-603	2.4	131
377	Data-Based Models for the Prediction of Dam Behaviour: A Review and Some Methodological Considerations. *Archives of Computational Methods in Engineering*, **2017**, 24, 1-21	7.8	129
376	Possibilities of the particle finite element method for fluid–soil–structure interaction problems. *Computational Mechanics*, **2011**, 48, 307-318	4	126
375	A stabilized finite element method for incompressible viscous flows using a finite increment calculus formulation. *Computer Methods in Applied Mechanics and Engineering*, **2000**, 182, 355-370	5.7	123

374	A finite point method for elasticity problems. *Computers and Structures*, **2001**, 79, 2151-2163	4.5	121
373	Fluid□tructure interaction using the particle finite element method. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 2100-2123	5.7	108
372	A general formulation for coupled thermal flow of metals using finite elements. *International Journal for Numerical Methods in Engineering*, **1981**, 17, 1497-1514	2.4	107
371	An empirical comparison of machine learning techniques for dam behaviour modelling. *Structural Safety*, **2015**, 56, 9-17	4.9	101
370	A monolithic Lagrangian approach for fluid□tructure interaction problems. *Computational Mechanics*, **2010**, 46, 883-899	4	98
369	A simple and efficient element for axisymmetric shells. *International Journal for Numerical Methods in Engineering*, **1977**, 11, 1545-1558	2.4	97
368	A Lagrangian meshless finite element method applied to fluid□tructure interaction problems. *Computers and Structures*, **2003**, 81, 655-671	4.5	92
367	On a non-linear formulation for curved Timoshenko beam elements considering large displacement/rotation increments. *International Journal for Numerical Methods in Engineering*, **1988**, 26, 1597-1613	2.4	92
366	Finite calculus formulation for incompressible solids using linear triangles and tetrahedra. *International Journal for Numerical Methods in Engineering*, **2004**, 59, 1473-1500	2.4	90
365	A mesh-free finite point method for advective-diffusive transport and fluid flow problems. *Computational Mechanics*, **1998**, 21, 283-292	4	89
364	Plate bending elements with discrete constraints: New triangular elements. *Computers and Structures*, **1990**, 35, 505-522	4.5	89
363	Modeling of Ground Excavation with the Particle Finite-Element Method. *Journal of Engineering Mechanics - ASCE*, **2010**, 136, 455-463	2.4	88
362	A viscous shell formulation for the analysis of thin sheet metal forming. *International Journal of Mechanical Sciences*, **1983**, 25, 305-335	5.5	85
361	A finite volume format for structural mechanics. *International Journal for Numerical Methods in Engineering*, **1994**, 37, 181-201	2.4	81
360	A finite point method for compressible flow. *International Journal for Numerical Methods in Engineering*, **2002**, 53, 1765-1779	2.4	79
359	Comparative study of different discrete element models and evaluation of equivalent micromechanical parameters. *International Journal of Solids and Structures*, **2012**, 49, 1497-1517	3.1	78
358	Validation of the particle finite element method (PFEM) for simulation of free surface flows. *Engineering Computations*, **2008**, 25, 385-425	1.4	77
357	Finite volumes and finite elements: Two □good friends□ *International Journal for Numerical Methods in Engineering*, **1994**, 37, 3323-3341	2.4	76

356	Possibilities of finite calculus in computational mechanics. *International Journal for Numerical Methods in Engineering*, **2004**, 60, 255-281	2.4	74
355	A finite element method for fluid–structure interaction with surface waves using a finite calculus formulation. *Computer Methods in Applied Mechanics and Engineering*, **2001**, 191, 635-660	5.7	73
354	The intrinsic time for the streamline upwind/Petrov-Galerkin formulation using quadratic elements. *Computer Methods in Applied Mechanics and Engineering*, **1992**, 94, 239-262	5.7	73
353	The ALE/Lagrangian Particle Finite Element Method: A new approach to computation of free-surface flows and fluid–object interactions. *Computers and Fluids*, **2007**, 36, 27-38	2.8	71
352	High-density sphere packing for discrete element method simulations. *Communications in Numerical Methods in Engineering*, **2009**, 25, 837-849		70
351	A homogeneous constitutive model for masonry. *International Journal for Numerical Methods in Engineering*, **1999**, 46, 1651-1671	2.4	70
350	On the simulation of flows with violent free surface motion. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 5597-5620	5.7	69
349	Interaction between an elastic structure and free-surface flows: experimental versus numerical comparisons using the PFEM. *Computational Mechanics*, **2008**, 43, 125-132	4	68
348	To mesh or not to mesh. That is the question… *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 4681-4696	5.7	66
347	DERIVATION OF THIN PLATE BENDING ELEMENTS WITH ONE DEGREE OF FREEDOM PER NODE: A SIMPLE THREE NODE TRIANGLE. *Engineering Computations*, **1993**, 10, 543-561	1.4	66
346	Polyhedrization of an arbitrary 3D point set. *Computer Methods in Applied Mechanics and Engineering*, **2003**, 192, 2649-2667	5.7	65
345	Finite element nonlinear analysis of concrete structures using a "plastic-damage model" *Engineering Fracture Mechanics*, **1990**, 35, 219-231	4.2	64
344	Fluid–structure interaction problems with strong added-mass effect. *International Journal for Numerical Methods in Engineering*, **2009**, 80, 1261-1294	2.4	62
343	Multi-fluid flows with the Particle Finite Element Method. *Computer Methods in Applied Mechanics and Engineering*, **2009**, 198, 2750-2767	5.7	62
342	Interpretation of dam deformation and leakage with boosted regression trees. *Engineering Structures*, **2016**, 119, 230-251	4.7	61
341	A finite point method for incompressible flow problems. *Computing and Visualization in Science*, **2000**, 3, 67-75	1	60
340	A general methodology for deriving shear constrained Reissner-Mindlin plate elements. *International Journal for Numerical Methods in Engineering*, **1992**, 33, 345-367	2.4	60
339	A total lagrangian formulation for the geometrically nonlinear analysis of structures using finite elements. Part I. Two-dimensional problems: Shell and plate structures. *International Journal for Numerical Methods in Engineering*, **1984**, 20, 2253-2281	2.4	57

338	Numerical modelling of landslide-generated waves with the particle finite element method (PFEM) and a non-Newtonian flow model. *International Journal for Numerical and Analytical Methods in Geomechanics*, **2016**, 40, 809-826	4	55
337	Particle finite element method in fluid-mechanics including thermal convection-diffusion. *Computers and Structures*, **2005**, 83, 1459-1475	4.5	55
336	Structural Analysis with the Finite Element Method. *Lecture Notes on Numerical Methods in Engineering and Sciences*, **2009**,		54
335	Finite calculus formulations for finite element analysis of incompressible flows. Eulerian, ALE and Lagrangian approaches. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 3001-3037	5.7	54
334	An anisotropic elastoplastic constitutive model for large strain analysis of fiber reinforced composite materials. *Computer Methods in Applied Mechanics and Engineering*, **2000**, 185, 245-277	5.7	54
333	A local constitutive model for the discrete element method. Application to geomaterials and concrete. *Computational Particle Mechanics*, **2015**, 2, 139-160	3	53
332	Discrete/Finite Element Modelling of Rock Cutting with a TBM Disc Cutter. *Rock Mechanics and Rock Engineering*, **2017**, 50, 621-638	5.7	53
331	Lagrangian formulation for finite element analysis of quasi-incompressible fluids with reduced mass losses. *International Journal for Numerical Methods in Fluids*, **2014**, 74, 699-731	1.9	52
330	Composite materials non-linear modelling for long fibre-reinforced laminates: Continuum basis, computational aspects and validations. *Computers and Structures*, **2008**, 86, 879-896	4.5	52
329	Simulation of flows with violent free surface motion and moving objects using unstructured grids. *International Journal for Numerical Methods in Fluids*, **2007**, 53, 1315-1338	1.9	52
328	A STUDY OF MESH OPTIMALITY CRITERIA IN ADAPTIVE FINITE ELEMENT ANALYSIS. *Engineering Computations*, **1993**, 10, 307-321	1.4	52
327	Simple and accurate two-noded beam element for composite laminated beams using a refined zigzag theory. *Computer Methods in Applied Mechanics and Engineering*, **2012**, 213-216, 362-382	5.7	49
326	Modelling of tunnelling processes and rock cutting tool wear with the particle finite element method. *Computational Mechanics*, **2013**, 52, 607-629	4	49
325	Numerical analysis of stereolithography processes using the finite element method. *Rapid Prototyping Journal*, **1995**, 1, 13-23	3.8	49
324	A general advancing front technique for filling space with arbitrary objects. *International Journal for Numerical Methods in Engineering*, **2004**, 61, 1977-1991	2.4	48
323	A coupled PFEM-Eulerian approach for the solution of porous FSI problems. *Computational Mechanics*, **2012**, 50, 805-819	4	47
322	Melting and spread of polymers in fire with the particle finite element method. *International Journal for Numerical Methods in Engineering*, **2010**, 81, 1046-1072	2.4	47
321	Numerical modelling of granular materials with spherical discrete particles and the bounded rolling friction model. Application to railway ballast. *Computers and Geotechnics*, **2017**, 85, 220-229	4.4	46

320	Advances in the formulation of the rotation-free basic shell triangle. *Computer Methods in Applied Mechanics and Engineering*, **2005**, 194, 2406-2443	5.7	46
319	Unified Lagrangian formulation for solid and fluid mechanics and FSI problems. *Computer Methods in Applied Mechanics and Engineering*, **2016**, 298, 520-547	5.7	45
318	A simple method for automatic update of finite element meshes **2000**, 16, 1-19		45
317	Modelling the vertical UL 94 test: competition and collaboration between melt dripping, gasification and combustion. *Fire and Materials*, **2015**, 39, 570-584	1.8	44
316	An unstructured grid-based, parallel free surface solver. *Applied Numerical Mathematics*, **1999**, 31, 271-293	1.5	44
315	Mould filling simulation using finite elements. *International Journal of Numerical Methods for Heat and Fluid Flow*, **1994**, 4, 291-310	4.5	44
314	Lagrangian analysis of multiscale particulate flows with the particle finite element method. *Computational Particle Mechanics*, **2014**, 1, 85-102	3	43
313	A continuum mechanics model for mechanical fatigue analysis. *Computational Materials Science*, **2005**, 32, 175-195	3.2	43
312	A temperature-based formulation for finite element analysis of generalized phase-change problems. *International Journal for Numerical Methods in Engineering*, **1994**, 37, 3441-3465	2.4	43
311	A constitutive model for cracking of concrete based on the incremental theory of plasticity. *Engineering Computations*, **1988**, 5, 309-319	1.4	43
310	Structural Analysis with the Finite Element Method Linear Statics. *Lecture Notes on Numerical Methods in Engineering and Sciences*, **2013**,		42
309	Large time-step explicit integration method for solving problems with dominant convection. *Computer Methods in Applied Mechanics and Engineering*, **2012**, 217-220, 168-185	5.7	42
308	Early detection of anomalies in dam performance: A methodology based on boosted regression trees. *Structural Control and Health Monitoring*, **2017**, 24, e2012	4.5	41
307	Modeling bed erosion in free surface flows by the particle finite element method. *Acta Geotechnica*, **2006**, 1, 237-252	4.9	41
306	Simulation of light-weight membrane structures by wrinkling model. *International Journal for Numerical Methods in Engineering*, **2005**, 62, 2127-2153	2.4	41
305	Plastic and viscoplastic flow of void-containing metals. Applications to axisymmetric sheet forming problems. *International Journal for Numerical Methods in Engineering*, **1988**, 25, 227-251	2.4	41
304	Improving mass conservation in simulation of incompressible flows. *International Journal for Numerical Methods in Engineering*, **2012**, 90, 1435-1451	2.4	40
303	An advancing front point generation technique **1998**, 14, 1097-1108		40

302	A general procedure for deriving stabilized space-time finite element methods for advective-diffusive problems **1999**, 31, 203-221		40
301	A simple triangular element for thick and thin plate and shell analysis. *International Journal for Numerical Methods in Engineering*, **1994**, 37, 2569-2582	2.4	40
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299	Multilayered composite structure design optimisation using distributed/parallel multi-objective evolutionary algorithms. *Composite Structures*, **2012**, 94, 1087-1096	5.3	39
298	A finite element formulation for incompressible flow problems using a generalized streamline operator. *Computer Methods in Applied Mechanics and Engineering*, **1997**, 143, 49-67	5.7	39
297	Advances in discrete element modelling of underground excavations. *Acta Geotechnica*, **2008**, 3, 317-322	4.9	39
296	A finite element methodology for local/global damage evaluation in civil engineering structures. *Computers and Structures*, **2002**, 80, 1667-1687	4.5	39
295	Improvements in the membrane behaviour of the three node rotation-free BST shell triangle using an assumed strain approach. *Computer Methods in Applied Mechanics and Engineering*, **2005**, 194, 907-932	5.7	39
294	A generalized streamline finite element approach for the analysis of incompressible flow problems including moving surfaces. *Computer Methods in Applied Mechanics and Engineering*, **1999**, 173, 241-255	5.7	39
293	Computation of the stabilization parameter for the finite element solution of advective-diffusive problems **1997**, 25, 1385-1407		38
292	Viscous damage model for timoshenko beam structures. *International Journal of Solids and Structures*, **1997**, 34, 3953-3976	3.1	38
291	A hierarchical finite element method based on the partition of unity. *Computer Methods in Applied Mechanics and Engineering*, **1998**, 152, 73-84	5.7	38
290	A basic thin shell triangle with only translational DOFs for large strain plasticity. *International Journal for Numerical Methods in Engineering*, **2001**, 51, 57-83	2.4	38
289	A scalar damage model with a shear retention factor for the analysis of reinforced concrete structures: theory and validation. *Computers and Structures*, **2001**, 79, 737-755	4.5	38
288	FIC/FEM Formulation with Matrix Stabilizing Terms for Incompressible Flows at Low and High Reynolds Numbers. *Computational Mechanics*, **2006**, 38, 440-455	4	37
287	A large strain plasticity model for anisotropic materials - composite material application. *International Journal of Plasticity*, **2001**, 17, 1437-1463	7.6	37
286	A plastic damage constitutive model for composite materials. *International Journal of Solids and Structures*, **1996**, 33, 2501-2518	3.1	37
285	Analysis of multifluid flows with large time steps using the particle finite element method. *International Journal for Numerical Methods in Fluids*, **2014**, 75, 621-644	1.9	36

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283	An Unstructured Finite Element Solver for Ship Hydrodynamics Problems. *Journal of Applied Mechanics, Transactions ASME*, **2003**, 70, 18-26	2.7	35
282	Numerical simulation of fiber reinforced composite materials: Two procedures. *International Journal of Solids and Structures*, **2002**, 39, 1967-1986	3.1	35
281	A particle finite element method for analysis of industrial forming processes. *Computational Mechanics*, **2014**, 54, 85-107	4	34
280	Simple modifications for stabilization of the finite point method. *International Journal for Numerical Methods in Engineering*, **2005**, 63, 351-379	2.4	34
279	Lagrangian formulations to solve free surface incompressible inviscid fluid flows. *Computer Methods in Applied Mechanics and Engineering*, **2001**, 191, 583-593	5.7	34
278	A unified Lagrangian formulation for solid and fluid dynamics and its possibility for modelling submarine landslides and their consequences. *Computer Methods in Applied Mechanics and Engineering*, **2019**, 343, 314-338	5.7	34
277	A unified monolithic approach for multi-fluid flows and fluid-structure interaction using the Particle Finite Element Method with fixed mesh. *Computational Mechanics*, **2015**, 55, 1091-1104	4	33
276	Numerical and Experimental Study of Overtopping and Failure of Rockfill Dams. *International Journal of Geomechanics*, **2015**, 15, 04014060	3.1	32
275	Robust design optimisation of advance hybrid (fiber-metal) composite structures. *Composite Structures*, **2013**, 99, 181-192	5.3	32
274	A comparison of the linear, quadratic and cubic mindlin strip elements for the analysis of thick and thin plates. *Computers and Structures*, **1983**, 17, 427-439	4.5	32
273	A residual correction method based on finite calculus. *Engineering Computations*, **2003**, 20, 629-658	1.4	31
272	A layer-wise triangle for analysis of laminated composite plates and shells. *Computers and Structures*, **1999**, 70, 635-646	4.5	30
271	A hierarchical finite element for composite laminated beams using a refined zigzag theory. *Composite Structures*, **2017**, 163, 168-184	5.3	29
270	A numerical model of delamination in composite laminated beams using the LRZ beam element based on the refined zigzag theory. *Composite Structures*, **2013**, 104, 270-280	5.3	29
269	A four-noded quadrilateral element for composite laminated plates/shells using the refined zigzag theory. *International Journal for Numerical Methods in Engineering*, **2013**, 95, 631-660	2.4	29
268	Application of explicit FE codes to simulation of sheet and bulk metal forming processes. *Journal of Materials Processing Technology*, **1998**, 80-81, 620-627	5.3	29
267	Finite element formulation for convective-diffusive problems with sharp gradients using finite calculus. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 1793-1825	5.7	29

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265	Methodological-Technological Framework for Construction 4.0. *Archives of Computational Methods in Engineering*, **2021**, 28, 689-711	7.8	28
264	Advances in the simulation of multi-fluid flows with the particle finite element method. Application to bubble dynamics. *International Journal for Numerical Methods in Fluids*, **2011**, 67, 1516-1539	1.9	27
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262	A State of the Art Review of the Particle Finite Element Method (PFEM). *Archives of Computational Methods in Engineering*, **2020**, 27, 1709-1735	7.8	27
261	Accurate modelling of the elastic behavior of a continuum with the Discrete Element Method. *Computational Mechanics*, **2017**, 60, 997-1010	4	26
260	Hybrid-Game Strategies for multi-objective design optimization in engineering. *Computers and Fluids*, **2011**, 47, 189-204	2.8	26
259	Computationally optimized formulation for the simulation of composite materials and delamination failures. *Composites Part B: Engineering*, **2011**, 42, 134-144	10	26
258	PETROVGALERKIN METHODS FOR THE TRANSIENT ADVECTIVEDIFFUSIVE EQUATION WITH SHARP GRADIENTS **1996**, 39, 1455-1473		26
257	Consistent pressure Laplacian stabilization for incompressible continua via higher-order finite calculus. *International Journal for Numerical Methods in Engineering*, **2011**, 87, 171-195	2.4	25
256	Wrinkling and folding analysis of elastic membranes using an enhanced rotation-free thin shell triangular element. *Finite Elements in Analysis and Design*, **2011**, 47, 982-990	2.2	25
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253	An anisotropic elastoplastic model based on an isotropic formulation. *Engineering Computations*, **1995**, 12, 245-262	1.4	25
252	A COMPRESSIBLE LAGRANGIAN FRAMEWORK FOR MODELING THE FLUIDSTRUCTURE INTERACTION IN THE UNDERWATER IMPLOSION OF AN ALUMINUM CYLINDER. *Mathematical Models and Methods in Applied Sciences*, **2013**, 23, 339-367	3.5	24
251	Active Transonic Aerofoil Design Optimization Using Robust Multiobjective Evolutionary Algorithms. *Journal of Aircraft*, **2011**, 48, 1084-1094	1.6	24
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249	Neural networks for variational problems in engineering. *International Journal for Numerical Methods in Engineering*, **2008**, 75, 1341-1360	2.4	24

248	Finite element analysis of sheet metal forming problems using a selective viscous bending/membrane formulation. *International Journal for Numerical Methods in Engineering*, **1990**, 30, 1577-1593	2.4	24
247	An investigation on thermal performance of wollastonite and bentonite reinforced intumescent fire-retardant coating for steel structures. *Construction and Building Materials*, **2019**, 228, 116734	6.7	23
246	An efficient edge-based level set finite element method for free surface flow problems. *International Journal for Numerical Methods in Fluids*, **2013**, 71, 687-716	1.9	23
245	Delamination in laminated plates using the 4-noded quadrilateral QLRZ plate element based on the refined zigzag theory. *Composite Structures*, **2014**, 108, 456-471	5.3	23
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243	Stabilized formulation for the advection–diffusion–absorption equation using finite calculus and linear finite elements. *Computer Methods in Applied Mechanics and Engineering*, **2006**, 195, 3926-3946	5.7	23
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239	Analysis of some partitioned algorithms for fluid-structure interaction. *Engineering Computations*, **2010**, 27, 20-56	1.4	22
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225	A new formulation for air-blast fluid structure interaction using an immersed approach. Part I: basic methodology and FEM-based simulations. *Computational Mechanics*, **2017**, 60, 83-100	4	18
224	Fast fluid structure interaction simulations using a displacement-based finite element model equipped with an explicit streamline integration prediction. *Computer Methods in Applied Mechanics and Engineering*, **2017**, 315, 1080-1097	5.7	18
223	A compressible Lagrangian framework for the simulation of the underwater implosion of large air bubbles. *Computer Methods in Applied Mechanics and Engineering*, **2013**, 255, 210-225	5.7	18
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221	A critical displacement approach for predicting structural instability. *Computer Methods in Applied Mechanics and Engineering*, **1996**, 134, 135-161	5.7	18
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