

Albert Van Bael

List of Publications by Year in descending order

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119
papers

2,444
citations

236925

25
h-index

223800

46
g-index

125
all docs

125
docs citations

125
times ranked

1285
citing authors

#	ARTICLE	IF	CITATIONS
1	Measurement and analysis of yield locus and work hardening characteristics of steel sheets with different r-values. <i>Acta Materialia</i> , 2002, 50, 3717-3729.	7.9	153
2	Force prediction for single point incremental forming deduced from experimental and FEM observations. <i>International Journal of Advanced Manufacturing Technology</i> , 2010, 46, 969-982.	3.0	150
3	Multi-level modelling of mechanical anisotropy of commercial pure aluminium plate: Crystal plasticity models, advanced yield functions and parameter identification. <i>International Journal of Plasticity</i> , 2015, 66, 3-30.	8.8	127
4	Marciniak-Kuczynski type modelling of the effect of Through-Thickness Shear on the forming limits of sheet metal. <i>International Journal of Plasticity</i> , 2009, 25, 2249-2268.	8.8	117
5	Finite element modeling of plastic anisotropy induced by texture and strain-path change. <i>International Journal of Plasticity</i> , 2003, 19, 647-674.	8.8	108
6	Forming forces in single point incremental forming: prediction by finite element simulations, validation and sensitivity. <i>Computational Mechanics</i> , 2011, 47, 573-590.	4.0	100
7	Prediction of forming limit strains under strain-path changes: Application of an anisotropic model based on texture and dislocation structure. <i>International Journal of Plasticity</i> , 1998, 14, 647-669.	8.8	97
8	Multiscale modelling of the plastic anisotropy and deformation texture of polycrystalline materials. <i>European Journal of Mechanics, A/Solids</i> , 2006, 25, 634-648.	3.7	95
9	Strain evolution in the single point incremental forming process: digital image correlation measurement and finite element prediction. <i>International Journal of Material Forming</i> , 2011, 4, 55-71.	2.0	80
10	Model identification and FE simulations: Effect of different yield loci and hardening laws in sheet forming. <i>International Journal of Plasticity</i> , 2007, 23, 420-449.	8.8	79
11	The Facet method: A hierarchical multilevel modelling scheme for anisotropic convex plastic potentials. <i>International Journal of Plasticity</i> , 2009, 25, 332-360.	8.8	70
12	Residual stress determination in cold drawn steel wire by FEM simulation and X-ray diffraction. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003, 346, 101-107.	5.6	69
13	An evolving plane stress yield criterion based on crystal plasticity virtual experiments. <i>International Journal of Plasticity</i> , 2015, 75, 141-169.	8.8	68
14	An extended Marciniak-Kuczynski model for anisotropic sheet subjected to monotonic strain paths with through-thickness shear. <i>International Journal of Plasticity</i> , 2011, 27, 1577-1597.	8.8	59
15	Towards accuracy improvement in single point incremental forming of shallow parts formed under laser assisted conditions. <i>International Journal of Material Forming</i> , 2016, 9, 339-351.	2.0	51
16	Hierarchical multi-scale modeling of texture induced plastic anisotropy in sheet forming. <i>Computational Materials Science</i> , 2013, 66, 65-83.	3.0	45
17	Modelling of plastic anisotropy based on texture and dislocation structure. <i>Computational Materials Science</i> , 1997, 9, 274-284.	3.0	43
18	Convex plastic potentials of fourth and sixth rank for anisotropic materials. <i>International Journal of Plasticity</i> , 2004, 20, 1505-1524.	8.8	41

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19	A novel method for producing solid polymer microneedles using laser ablated moulds in an injection moulding process. <i>Manufacturing Letters</i> , 2020, 24, 29-32.	2.2	37
20	The prediction of differential hardening behaviour of steels by multi-scale crystal plasticity modelling. <i>International Journal of Plasticity</i> , 2015, 73, 119-141.	8.8	31
21	The design of a biaxial tensile test and its use for the validation of crystallographic yield loci. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2000, 8, 423-433.	2.0	30
22	A new cluster-type model for the simulation of textures of polycrystalline metals. <i>Acta Materialia</i> , 2014, 69, 175-186.	7.9	30
23	Identification of material parameters to predict Single Point Incremental Forming forces. <i>International Journal of Material Forming</i> , 2008, 1, 1147-1150.	2.0	29
24	MK modelling of sheet formability in the incremental sheet forming process, taking into account through-thickness shear. <i>International Journal of Material Forming</i> , 2009, 2, 379-382.	2.0	29
25	Effects of the isotropic and anisotropic hardening within each grain on the evolution of the flow stress, the r-value and the deformation texture of tensile tests for AA6016 sheets. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 721, 154-164.	5.6	29
26	Benchmark tests for 3-D, elasto-plastic, finite-element codes for the modelling of metal forming processes. <i>Journal of Materials Processing Technology</i> , 1992, 34, 61-68.	6.3	27
27	Single Point Incremental Forming of an Aged AL-Cu-Mg Alloy: Influence of Pre-heat Treatment and Warm Forming. <i>Journal of Materials Engineering and Performance</i> , 2016, 25, 2478-2488.	2.5	26
28	Application of a Texture-Based Plastic Potential in Earing Prediction of an IF Steel. <i>Advanced Engineering Materials</i> , 2001, 3, 990.	3.5	25
29	Forming Limit Predictions for the Serrated Strain Paths in Single Point Incremental Sheet Forming. <i>AIP Conference Proceedings</i> , 2007, . .	0.4	25
30	Determination of the flow stress and contact friction of sheet metal in a multi-layered upsetting test. <i>Journal of Materials Processing Technology</i> , 2010, 210, 1290-1296.	6.3	25
31	The Influence of Mechanical Recycling on Properties in Injection Molding of Fiber-Reinforced Polypropylene. <i>International Polymer Processing</i> , 2019, 34, 398-407.	0.5	25
32	Finite Element Modeling of Incremental Forming of Aluminum Sheets. <i>Advanced Materials Research</i> , 2005, 6-8, 525-532.	0.3	23
33	Improvements in thermoforming simulation by use of 3D digital image correlation. <i>EXPRESS Polymer Letters</i> , 2015, 9, 119-128.	2.1	22
34	Polycrystal plasticity models based on crystallographic and morphologic texture: Evaluation of predictions of plastic anisotropy and deformation texture. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 581, 66-72.	5.6	21
35	On the synergy between physical and virtual sheet metal testing: calibration of anisotropic yield functions using a microstructure-based plasticity model. <i>International Journal of Material Forming</i> , 2019, 12, 741-759.	2.0	20
36	Small-scale Finite Element Modelling of the Plastic Deformation Zone in the Incremental Forming Process. <i>International Journal of Material Forming</i> , 2008, 1, 1159-1162.	2.0	19

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37	Process parameter influence on texture heterogeneity in asymmetric rolling of aluminium sheet alloys. <i>International Journal of Material Forming</i> , 2018, 11, 297-309.	2.0	19
38	Advances in force modelling for SPIF. <i>International Journal of Material Forming</i> , 2009, 2, 25-28.	2.0	18
39	The significance of friction in the single point incremental forming process. <i>International Journal of Material Forming</i> , 2010, 3, 947-950.	2.0	18
40	Analysis of ESAFORM 2021 cup drawing benchmark of an Al alloy, critical factors for accuracy and efficiency of FE simulations. <i>International Journal of Material Forming</i> , 2022, 15, .	2.0	18
41	Strain rate effect in high-speed wire drawing process. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2002, 10, 267-276.	2.0	15
42	Analysis and Prediction of the Earing Behaviour of Low Carbon Steel Sheet. <i>Textures and Microstructures</i> , 1996, 26, 553-570.	0.2	13
43	Two-component injection moulding of thermoset rubber in combination with thermoplastics by thermally separated mould cavities and rapid heat cycling. <i>International Journal of Advanced Manufacturing Technology</i> , 2017, 92, 2599-2607.	3.0	13
44	Wetting measurements as a tool to predict the thermoplastic/thermoset rubber compatibility in two-component injection molding. <i>Journal of Applied Polymer Science</i> , 2018, 135, 46046.	2.6	13
45	FEM-Aided Taylor Simulations of Radial Texture Gradient in Wire Drawing. <i>Materials Science Forum</i> , 2002, 408-412, 439-444.	0.3	12
46	Comparison of FEM Simulations for the Incremental Forming Process. <i>Advanced Materials Research</i> , 2005, 6-8, 533-542.	0.3	12
47	Effect of Laser Transformation Hardening on the Accuracy of SPIF Formed Parts. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2017, 139, .	2.2	12
48	Determination of Strain in Incremental Sheet Forming Process. <i>Key Engineering Materials</i> , 2007, 344, 503-510.	0.4	11
49	Application of a texture parameter model to study planar anisotropy of rolled steel sheets. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2000, 8, 413-422.	2.0	10
50	Bending Properties of Locally Laser Heat Treated AA2024-T3 Aluminium Alloy. <i>Physics Procedia</i> , 2012, 39, 257-264.	1.2	10
51	Consistency of Strain Fields and Thickness Distributions in Thermoforming Experiments Through Stereo DIC. <i>Experimental Techniques</i> , 2016, 40, 1409-1420.	1.5	10
52	A Combined Experimental and Modelling Approach towards an Optimized Heating Strategy in Thermoforming of Thermoplastics Sheets. <i>International Polymer Processing</i> , 2017, 32, 378-386.	0.5	10
53	Controlling the geometry of laser ablated microneedle cavities in different mould materials and assessing the replication fidelity within polymer injection moulding. <i>Journal of Manufacturing Processes</i> , 2021, 62, 535-545.	5.9	10
54	Effect of process parameters on the adhesion strength in two-component injection molding of thermoset rubbers and thermoplastics. <i>Journal of Applied Polymer Science</i> , 2018, 135, 46495.	2.6	9

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55	Digital Image Correlation for On-Line Wall Thickness Measurements in Thick Gauge Thermoforming. Key Engineering Materials, 0, 554-557, 1583-1591.	0.4	8
56	Multi-scale material modelling to predict the material anisotropy of multi-phase steels. Computational Materials Science, 2019, 160, 382-396.	3.0	8
57	The Application of Multiscale Modelling for the Prediction of Plastic Anisotropy and Deformation Textures. Materials Science Forum, 2005, 495-497, 31-44.	0.3	7
58	Enhanced Formability of Age-Hardenable Aluminium Alloys by Incremental Forming of Solution-Treated Blanks. Key Engineering Materials, 2013, 549, 164-171.	0.4	7
59	Effect of coagents on adhesion between peroxide cured ethylene-propylene diene monomer and thermoplastics in two-component injection molding. Journal of Applied Polymer Science, 2020, 137, 48414.	2.6	7
60	Comparison of FEM Simulations for the Incremental Forming Process. Advanced Materials Research, 0, , 533-542.	0.3	7
61	Side-Bulging during Tensile Tests of IF-Steels with Cross-Thickness Texture Gradients. Materials Science Forum, 1998, 273-275, 417-424.	0.3	6
62	Evolving texture-informed anisotropic yield criterion for sheet forming. , 2013, , .		6
63	Formability Enhancement in Incremental Forming for an Automotive Aluminium Alloy Using Laser Assisted Incremental Forming. Key Engineering Materials, 0, 639, 195-202.	0.4	6
64	Advanced Plasticity Modeling for Ultra-Low-Cycle-Fatigue Simulation of Steel Pipe. Metals, 2017, 7, 140.	2.3	6
65	Prediction of interfacial strength of HDPE overmolded with EPDM. Polymer Engineering and Science, 2019, 59, 1489-1498.	3.1	6
66	Finite Element Modeling of Incremental Forming of Aluminum Sheets. Advanced Materials Research, 0, , 525-532.	0.3	6
67	Texture-Based Explicit Finite-Element Analysis of Sheet Metal Forming. Materials Science Forum, 2005, 495-497, 1535-1540.	0.3	5
68	In-Process Hardening in Laser Supported Incremental Sheet Metal Forming. Key Engineering Materials, 2012, 504-506, 827-832.	0.4	5
69	Polycrystalline Model Predictions of Flow Stress and Textural Hardening during Monotonic Deformation. Key Engineering Materials, 0, 554-557, 1157-1163.	0.4	5
70	Reactive wetting of polyethylene on ethylene-propylene-diene terpolymer. Colloids and Interface Science Communications, 2021, 40, 100343.	4.1	5
71	Analytical Representation of Polycrystal Yield Surfaces. , 1991, , 183-186.		5
72	Effect of Plastic Anisotropy on Forming Limit Prediction. Materials Science Forum, 2005, 495-497, 1573-1578.	0.3	4

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73	The Application of Multiscale Modelling for the Prediction of Plastic Anisotropy and Deformation Textures. Materials Science Forum, 2007, 550, 13-22.	0.3	4
74	A Coupled Multiscale Model of Texture Evolution and Plastic Anisotropy. , 2010, , .		4
75	Tool Directionality in Contour-Based Incremental Sheet Forming: an Experimental Study on Product Properties and Formability. Key Engineering Materials, 2011, 473, 897-904.	0.4	4
76	On the Geometric Accuracy in Shallow Sloped Parts in Single Point Incremental Forming. Key Engineering Materials, 0, 554-557, 1443-1450.	0.4	4
77	Prediction of Transient Hardening after Strain Path Change by a Multi-scale Crystal Plasticity Model with Anisotropic Grain Substructure. Procedia Engineering, 2014, 81, 1318-1323.	1.2	4
78	Influence of Global Forced-air Warming on the Bulge Formation in Shallow Sloped SPIF Parts. Procedia Engineering, 2017, 183, 149-154.	1.2	4
79	Benchmarking of depth of field for large out-of-plane deformations with single camera digital image correlation. Optics and Lasers in Engineering, 2017, 91, 134-143.	3.8	4
80	Two-component injection moulding of thermoplastics with thermoset rubbers: Process development. AIP Conference Proceedings, 2017, , .	0.4	4
81	Multiscale modelling of asymmetric rolling with an anisotropic constitutive law. Comptes Rendus - Mecanique, 2018, 346, 724-742.	2.1	4
82	Adhesion between ethyleneâ€propyleneâ€diene monomer and thermoplastics in twoâ€component injection molding: Effect of dicumylperoxide as curing agent. Journal of Applied Polymer Science, 2020, 137, 49233.	2.6	4
83	Influence of laser assisted single point incremental forming on the accuracy of shallow sloped parts. , 2013, , .		4
84	An Efficient Strategy to Take Texture-Induced Anisotropy Point-by-Point into Account during FE Simulations of Metal Forming Processes. Materials Science Forum, 0, 702-703, 26-33.	0.3	3
85	Validation of the Texture-Based ALAMEL and VPSC Models by Measured Anisotropy of Plastic Yielding. Materials Science Forum, 0, 702-703, 233-236.	0.3	3
86	Experimental validation and effect of modelling assumptions in the hierarchical multi-scale simulation of the cup drawing of AA6016 sheets. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 015002.	2.0	3
87	Predicting the replication fidelity of injection molded solid polymer microneedles. International Polymer Processing, 2022, .	0.5	3
88	Finite-Element Prediction of Heterogeneous Material Flow during Tensile Testing of Anisotropic Material. Materials Science Forum, 1994, 157-162, 1909-1916.	0.3	2
89	Identification of constitutive equation in hierarchical multiscale modelling of cup drawing process. , 2011, , .		2
90	Experimental and Computational Analysis of the Heating Step during Thermoforming of Thermoplastics. Key Engineering Materials, 2015, 651-653, 1003-1008.	0.4	2

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91	Modelling the stored energy of plastic deformation for individual crystal orientations. IOP Conference Series: Materials Science and Engineering, 2015, 82, 012052.	0.6	2
92	Optimization of the IR-heating phase in thermoforming of thermoplastic sheets: Characterization and modelling. AIP Conference Proceedings, 2017, , .	0.4	2
93	Texture-Based Plastic Potentials in Stress Space. Ceramic Transactions, 0, , 809-815.	0.1	2
94	Anisotropic Finite-Element Prediction of Texture Evolution in Material Forming. Materials Science Forum, 1994, 157-162, 1901-1908.	0.3	1
95	Anisotropy and Formability in Sheet Metal Forming. AIP Conference Proceedings, 2007, , .	0.4	1
96	Anisotropic Sheet Forming Simulations Based on the ALAMEL Model: Application on Cup Deep Drawing and Ironing. , 2011, , .		1
97	Effect of the grain shape on the q-value evolution of steel sheets. IOP Conference Series: Materials Science and Engineering, 2015, 82, 012096.	0.6	1
98	Multiscale Modelling of Mechanical Anisotropy. ESAFORM Bookseries on Material Forming, 2016, , 79-134.	0.1	1
99	Yield locus prediction using statistical and RVE-based fast Fourier transform crystal plasticity models and validation for drawing steels. Journal of Physics: Conference Series, 2018, 1063, 012051.	0.4	1
100	Unravelling Anisotropy Evolution during Spiral Pipe Forming: a Multiscale Approach. Procedia Manufacturing, 2020, 47, 1434-1441.	1.9	1
101	Hierarchical Multi-Level Modelling of Plastic Anisotropy using Convex Plastic Potentials. Ceramic Transactions, 0, , 817-825.	0.1	1
102	Application of an Elastic-Plastic Finite Element Model for the Simulation of Forming Processes. , 1991, , 672-675.		1
103	Finite-Element Simulation and Experimental Validation of a Plasticity Model of Texture and Strain-Induced Anisotropy. Key Engineering Materials, 2002, 230-232, 501-504.	0.4	0
104	Assessment of Convex Plastic Potentials Derived from Crystallographic Textures. AIP Conference Proceedings, 2007, , .	0.4	0
105	Multiscale Modelling of Plastic Deformation of Polycrystals: Implementation of Texture-Based Anisotropy in Engineering Applications (FE Codes for Forming, Prediction of Forming Limit Curves). Materials Science Forum, 2007, 539-543, 3454-3459.	0.3	0
106	The facet method for plastic anisotropy of textured materials. International Journal of Material Forming, 2008, 1, 101-104.	2.0	0
107	Simulation of a Thick Plate Forming Benchmark Using a Multi Scale Texture Evolution and Anisotropic Plasticity Model. Key Engineering Materials, 0, 549, 436-443.	0.4	0
108	Validation of a Multi-Scale Model for Shear Deformation of an Aluminium Sheet Alloy. Key Engineering Materials, 2014, 611-612, 553-561.	0.4	0

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109	A new cluster-type statistical model for the prediction of deformation textures. IOP Conference Series: Materials Science and Engineering, 2015, 82, 012015.	0.6	0
110	Editorial: In honor of Paul Van Houtte. International Journal of Plasticity, 2015, 66, 1-2.	8.8	0
111	Spatial clustering strategies for hierarchical multi-scale modelling of metal plasticity. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 074003.	2.0	0
112	A numerical multi-scale model to predict macroscopic material anisotropy of multi-phase steels from crystal plasticity material definitions. AIP Conference Proceedings, 2017, , .	0.4	0
113	Study of Asymmetric Rolling to Improve Textures and <i>r</i> -Values of Aluminium Deep Drawing Alloys. Materials Science Forum, 2018, 941, 1330-1335.	0.3	0
114	The Application of Crystal Plasticity Material Files in Stamping Simulations. Journal of Physics: Conference Series, 2018, 1063, 012103.	0.4	0
115	The Facet Method for the Description of Yield Loci of Textured Materials. , 2009, , 445-450.		0
116	Full-Field Multi-Scale Modelling of Sheet Metal Forming Taking the Evolution of Texture and Plastic Anisotropy Into Account. , 2013, , 213-218.		0
117	Full-Field Multi-Scale Modelling of Sheet Metal Forming Taking the Evolution of Texture and Plastic Anisotropy into Account. , 0, , 213-218.		0
118	SPATIAL CLUSTERING STRATEGIES FOR HIERARCHICAL MULTI-SCALE MODELLING OF METAL PLASTICITY. , 2016, , .		0
119	Inverse Identification of Plastic Material Behavior Using Multi-Scale Virtual Experiments. Conference Proceedings of the Society for Experimental Mechanics, 2016, , 37-42.	0.5	0