Albert Van Bael

List of Publications by Year
in descending order

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119 papers	2,444 citations	236833 25 h-index	223716 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 wtih different r-values. Acta Materialia, 2002, 50, 3717-3729.	3.8	153
2	Force prediction for single point incremental forming deduced from experimental and FEM observations. International Journal of Advanced Manufacturing Technology, 2010, 46, 969-982.	1.5	150
3	Multi-level modelling of mechanical anisotropy of commercial pure aluminium plate: Crystal plasticity models, advanced yield functions and parameter identification. International Journal of Plasticity, 2015, 66, 3-30.	4.1	127
4	Marciniakâ€“Kuczynski type modelling of the effect of Through-Thickness Shear on the forming limits of sheet metal. International Journal of Plasticity, 2009, 25, 2249-2268.	4.1	117
5	Finite element modeling of plastic anisotropy induced by texture and strain-path change. International Journal of Plasticity, 2003, 19, 647-674.	4.1	108
6	Forming forces in single point incremental forming: prediction by finite element simulations, validation and sensitivity. Computational Mechanics, 2011, 47, 573-590.	2.2	100
7	Prediction of forming limit strains under strain-path changes: Application of an anisotropic model based on texture and dislocation structure. International Journal of Plasticity, 1998, 14, 647-669.	4.1	97
8	Multiscale modelling of the plastic anisotropy and deformation texture of polycrystalline materials. European Journal of Mechanics, A/Solids, 2006, 25, 634-648.	2.1	95
9	Strain evolution in the single point incremental forming process: digital image correlation measurement and finite element prediction. International Journal of Material Forming, 2011, 4, 55-71.	0.9	80
10	Model identification and FE simulations: Effect of different yield loci and hardening laws in sheet forming. International Journal of Plasticity, 2007, 23, 420-449.	4.1	79
11	The Facet method: A hierarchical multilevel modelling scheme for anisotropic convex plastic potentials. International Journal of Plasticity, 2009, 25, 332-360.	4.1	70
12	Residual stress determination in cold drawn steel wire by FEM simulation and X-ray diffraction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 346, 101-107.	2.6	69
13	An evolving plane stress yield criterion based on crystal plasticity virtual experiments. International Journal of Plasticity, 2015, 75, 141-169.	4.1	68
14	An extended Marciniakâ€“Kuczynski model for anisotropic sheet subjected to monotonic strain paths with through-thickness shear. International Journal of Plasticity, 2011, 27, 1577-1597.	4.1	59
15	Towards accuracy improvement in single point incremental forming of shallow parts formed under laser assisted conditions. International Journal of Material Forming, 2016, 9, 339-351.	0.9	51
16	Hierarchical multi-scale modeling of texture induced plastic anisotropy in sheet forming. Computational Materials Science, 2013, 66, 65-83.	1.4	45
17	Modelling of plastic anisotropy based on texture and dislocation structure. Computational Materials Science, 1997, 9, 274-284.	1.4	43
18	Convex plastic potentials of fourth and sixth rank for anisotropic materials. International Journal of Plasticity, 2004, 20, 1505-1524.	4.1	41

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19	A novel method for producing solid polymer microneedles using laser ablated moulds in an injection moulding process. Manufacturing Letters, 2020, 24, 29-32.	1.1	37
20	The prediction of differential hardening behaviour of steels by multi-scale crystal plasticity modelling. International Journal of Plasticity, 2015, 73, 119-141.	4.1	31
21	The design of a biaxial tensile test and its use for the validation of crystallographic yield loci. Modelling and Simulation in Materials Science and Engineering, 2000, 8, 423-433.	0.8	30
22	A new cluster-type model for the simulation of textures of polycrystalline metals. Acta Materialia, 2014, 69, 175-186.	3.8	30
23	Identification of material parameters to predict Single Point Incremental Forming forces. International Journal of Material Forming, 2008, 1, 1147-1150.	0.9	29
24	MK modelling of sheet formability in the incremental sheet forming process, taking into account through-thickness shear. International Journal of Material Forming, 2009, 2, 379-382.	0.9	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. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 721, 154-164.	2.6	29
26	Benchmark tests for 3-D, elasto-plastic, finite-element codes for the modelling of metal forming processes. Journal of Materials Processing Technology, 1992, 34, 61-68.	3.1	27
27	Single Point Incremental Forming of an Aged AL-Cu-Mg Alloy: Influence of Pre-heat Treatment and Warm Forming. Journal of Materials Engineering and Performance, 2016, 25, 2478-2488.	1.2	26
28	Application of a Texture-Based Plastic Potential in Earing Prediction of an IF Steel. Advanced Engineering Materials, 2001, 3, 990.	1.6	25
29	Forming Limit Predictions for the Serrated Strain Paths in Single Point Incremental Sheet Forming. AIP Conference Proceedings, 2007, , .	0.3	25
30	Determination of the flow stress and contact friction of sheet metal in a multi-layered upsetting test. Journal of Materials Processing Technology, 2010, 210, 1290-1296.	3.1	25
31	The Influence of Mechanical Recycling on Properties in Injection Molding of Fiber-Reinforced Polypropylene. International Polymer Processing, 2019, 34, 398-407.	0.3	25
32	Finite Element Modeling of Incremental Forming of Aluminum Sheets. Advanced Materials Research, 2005, 6-8, 525-532.	0.3	23
33	Improvements in thermoforming simulation by use of 3D digital image correlation. EXPRESS Polymer Letters, 2015, 9, 119-128.	1.1	22
34	Polycrystal plasticity models based on crystallographic and morphologic texture: Evaluation of predictions of plastic anisotropy and deformation texture. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 581, 66-72.	2.6	21
35	On the synergy between physical and virtual sheet metal testing: calibration of anisotropic yield functions using a microstructure-based plasticity model. International Journal of Material Forming, 2019, 12, 741-759.	0.9	20
36	Small-scale Finite Element Modelling of the Plastic Deformation Zone in the Incremental Forming Process. International Journal of Material Forming, 2008, 1, 1159-1162.	0.9	19

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37	Process parameter influence on texture heterogeneity in asymmetric rolling of aluminium sheet alloys. International Journal of Material Forming, 2018, 11, 297-309.	0.9	19
38	Advances in force modelling for SPIF. International Journal of Material Forming, 2009, 2, 25-28.	0.9	18
39	The significance of friction in the single point incremental forming process. International Journal of Material Forming, 2010, 3, 947-950.	0.9	18
40	Analysis of ESAFORM 2021 cup drawing benchmark of an Al alloy, critical factors for accuracy and efficiency of FE simulations. International Journal of Material Forming, 2022, 15, .	0.9	18
41	Strain rate effect in high-speed wire drawing process. Modelling and Simulation in Materials Science and Engineering, 2002, 10, 267-276.	0.8	15
42	Analysis and Prediction of the Earing Behaviour of Low Carbon Steel Sheet. Textures and Microstructures, 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. International Journal of Advanced Manufacturing Technology, 2017, 92, 2599-2607.	1.5	13
44	Wetting measurements as a tool to predict the thermoplastic/thermoset rubber compatibility in twoâ€component injection molding. Journal of Applied Polymer Science, 2018, 135, 46046.	1.3	13
45	FEM-Aided Taylor Simulations of Radial Texture Gradient in Wire Drawing. Materials Science Forum, 2002, 408-412, 439-444.	0.3	12
46	Comparison of FEM Simulations for the Incremental Forming Process. Advanced Materials Research, 2005, 6-8, 533-542.	0.3	12
47	Effect of Laser Transformation Hardening on the Accuracy of SPIF Formed Parts. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2017, 139, .	1.3	12
48	Determination of Strain in Incremental Sheet Forming Process. Key Engineering Materials, 2007, 344, 503-510.	0.4	11
49	Application of a texture parameter model to study planar anisotropy of rolled steel sheets. Modelling and Simulation in Materials Science and Engineering, 2000, 8, 413-422.	0.8	10
50	Bending Properties of Locally Laser Heat Treated AA2024-T3 Aluminium Alloy. Physics Procedia, 2012, 39, 257-264.	1.2	10
51	Consistency of Strain Fields and Thickness Distributions in Thermoforming Experiments Through Stereo DIC. Experimental Techniques, 2016, 40, 1409-1420.	0.9	10
52	A Combined Experimental and Modelling Approach towards an Optimized Heating Strategy in Thermoforming of Thermoplastics Sheets. International Polymer Processing, 2017, 32, 378-386.	0.3	10
53	Controlling the geometry of laser ablated microneedle cavities in different mould materials and assessing the replication fidelity within polymer injection moulding. Journal of Manufacturing Processes, 2021, 62, 535-545.	2.8	10
54	Effect of process parameters on the adhesion strength in twoâ€component injection molding of thermoset rubbers and thermoplastics. Journal of Applied Polymer Science, 2018, 135, 46495.	1.3	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.	1.4	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 coâ€agents on adhesion between peroxide cured ethyleneâ€“propyleneâ€“diene monomer and thermoplastics in twoâ€component injection molding. Journal of Applied Polymer Science, 2020, 137, 48414.	1.3	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.	1.0	6
65	Prediction of interfacial strength of HDPE overmolded with EPDM. Polymer Engineering and Science, 2019, 59, 1489-1498.	1.5	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.	2.0	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.	2.0	4
80	Two-component injection moulding of thermoplastics with thermoset rubbers: Process development. AIP Conference Proceedings, 2017, , .	0.3	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.	1.3	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.	0.8	3
87	Predicting the replication fidelity of injection molded solid polymer microneedles. International Polymer Processing, 2022, .	0.3	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.	0.3	2
92	Optimization of the IR-heating phase in thermoforming of thermoplastic sheets: Characterization and modelling. AIP Conference Proceedings, 2017, , .	0.3	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, , .	0.3	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.	0.3	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.	0.3	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, , .	0.3	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.	0.9	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.	0.3	0
110	Editorial: In honor of Paul Van Houtte. International Journal of Plasticity, 2015, 66, 1-2.	4.1	0
111	Spatial clustering strategies for hierarchical multi-scale modelling of metal plasticity. Modelling and Simulation in Materials Science and Engineering, 2017, 25, 074003.	0.8	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, , .	0.3	0
113	Study of Asymmetric Rolling to Improve Textures and r-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.	0.3	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.	0.3	0