

## List of publications – Richard Degenhardt (Status: 3 October 2022)

Google Scholar. [https://scholar.google.de/citations?hl=de&view\\_op=list\\_works&gmla=AJsN-F4VbPLYUQaJ0EicVJ8AuQ3hf5HSLZpCFtr3LoynaiOFD-hxgL5p8Nx6F6FsY2EKnN001\\_ZI2jfwVa8GWBYh4a0\\_71IKjPeuc0KQGif\\_TvNaTAai57A&user=RLI28V8AAAAJ](https://scholar.google.de/citations?hl=de&view_op=list_works&gmla=AJsN-F4VbPLYUQaJ0EicVJ8AuQ3hf5HSLZpCFtr3LoynaiOFD-hxgL5p8Nx6F6FsY2EKnN001_ZI2jfwVa8GWBYh4a0_71IKjPeuc0KQGif_TvNaTAai57A&user=RLI28V8AAAAJ)

### 0. PhD-Thesis

Degenhardt, R., “Nichtlineare dynamische Bauwerksprobleme und Interaktion mit dem Baugrund (Nonlinear structural dynamics and soil-structure interaction)“, PhD Thesis, Braunschweiger *Schriften zur Mechanik*, No. 22-1996, ISBN 3-920395-21-2

### I. Books

1. Arbocz J., Bisagni C., Calvi, A, Carrera E., Cuntze R., Degenhardt R., Gualtieri N., Haller H., Impollonia N., Jacquesson M., Jansen E., Meyer-Piening H.R., Oery H., Rittweger A., Rolfes R., Schuller G., Turzo G., Weller T., Wijker J., *E.C.S.S. Buckling of structures* (ESA), March 2010
2. Riccio A., Damage growth in composites, Chapter 11 (Degenhardt R.): Buckling and collapse tests using advanced measurement systems”, Springer, (ISBN 978-3-319-04004-2, 2015)
3. Abramovich H., Stability and vibrations of Thin-Walled Composite Structures, Woodhead Publishing, (ISBN 978-0-08-100410-4, 2017)
  - a. Chapter 7: Degenhardt R., Stability of composite shell-type structures
  - b. Chapter 9: Degenhardt R., Stability of composite stringer-stiffened panels
4. Sause M., Jasiūnienė E., Structural Health Monitoring Damage Detection Systems for Aerospace (ISBN 978-3030721916, 2021) <https://link.springer.com/book/10.1007/978-3-030-72192-3>
  - a. Chapter 3: Faisal N, Degenhardt R., et al, Defect types

### II. Special issues

1. Special Issue Vol. 10, No. 4 (2010) of the *International Journal of Structural Stability and Dynamics*, Title: *Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, (19 reviewed papers, 3 technical notes), 2010
2. Special Issue, 85-6 of the *International Journal of Aircraft Engineering and Aerospace Technology*, (8 reviewed papers), 2013
3. Special Issue 86-4 of the *International Journal of Aircraft Engineering and Aerospace Technology*, (11 reviewed papers), 2014
4. Special Issue 87-2 of the *International Journal of Aircraft Engineering and Aerospace Technology*, (10 reviewed papers), 2015
5. Special Issue 87-3 of the *International Journal of Aircraft Engineering and Aerospace Technology*, (15 reviewed papers), 2015
6. Special Issue Vol. 88-3 of the *International Journal of Aircraft Engineering and Aerospace Technology*, (12 reviewed papers), 2016
7. Special Issue Vol. 90-3 of the *International Journal of Aircraft Engineering and Aerospace Technology*, (11 reviewed papers), 2018
8. Special Issue 90-1 of the *International Journal of Computational Methods in Engineering Science and Mechanics*,” (*IJCMESM*), Title: *Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, (10 reviewed papers), 2017 <http://www.tandfonline.com/toc/ucme20/18/1?nav=tocList>

### III. Scientific Chairman of the following conferences

1. 2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures, Braunschweig, Germany, 3-5 September, 2008, [www.cocomat.de](http://www.cocomat.de)
2. 3<sup>rd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures, Braunschweig, Germany, 25-27 March, 2015, [www.desicos.eu](http://www.desicos.eu)
- 3.-11. Symposium Aeronautics of the Int. AIRTEC Congress, Frankfurt, Germany, every year 2008-2016

### IV. 1<sup>st</sup> examiner for a PhD

1. Felipe Franzoni, “Predicting buckling from vibration: an analytical, numerical, and experimental verification for cylindrical shells“, PhD thesis, University Bremen (29 January 2020)
2. Naghham Al-Kathemi, “New design concept for the combination of impact and waviness of aircraft composite structures”, PhD thesis, University Bremen (17 January 2022)
3. Andreas Schuster, “Influence of spatially distributed out-of-plane CFRP fibre waviness on the estimation of knock-down factors based on stochastic numerical analysis, University Bremen (2023)

## V. 2<sup>nd</sup> / 3<sup>rd</sup> examiner for a PhD

1. Zoltan Mikulik, "Application of fracture mechanics to predict the growth of single and multi-level delaminations and disbands in composite structures", PhD thesis, UNSW Sydney, Australia (March 2008)
2. Garth Pearce, "High strain rate response of mechanically fastened joints", PhD thesis, UNSW Sydney, Australia (January 2010)
3. Adriana W. Blom, "Structural Performance of Fiber-Placed, Variable-Stiffness Composite Conical and Cylindrical Shells", PhD thesis, TU-Delft, Netherlands (November 2010)
4. Edgars Eglitis, "Dynamic Buckling of Composite Shells", PhD thesis, Riga Technical University, Latvia (March 2011)
5. Broggi, "Buckling Analysis of Composite Cylindrical Shells with Random Imperfections", University of Innsbruck, Austria, (July 2011)
6. Adrian Jackson, "Development of Efficient and Robust Composite Structural Elements for Energy Absorption", UNSW Sydney, Australia (October 2011)
7. Nuttawit Wattanasakulpong, "Thermal buckling and elastic vibration of functionally graded beams and plates using improved third-order shear deformation theory", UNSW Sydney, Australia (May 2012)
8. Fabio da Cunha, "Robustness-Based Design Strategy for Thin-Walled Composite Structures in Postbuckling", TU Braunschweig, (October 2014)
9. Saullo Castro, "Semi-Analytical Tools for the Analysis of Laminated Composite Cylindrical and Conical Imperfect Shells under Various Loading and Boundary Conditions", TU Clausthal-Zellerfeld, (November 2014)
10. Michela Alfano, "A probability-based methodology for buckling investigation of sandwich composite cylindrical shells", Politecnico di Milano, (March 2016)
11. Adrian Gliszczynski, "Stability and load carrying capacity of thin-walled composite structures with BVIDs", Lodz University, Poland, (August 2019)
12. Tanula V., "Bonded Patch Repair Applications for Primary Aircraft Structures", UNSW Sydney, Australia (2022)
13. Javier Gutiérrez Álvarez, "Buckling, post-buckling and vibrations of composite plates under combined thermomechanical loads", TU-Delft, 14 October 2022

## VI. Articles in magazines

1. Degenhardt R., "The right stuff – Verbundwerkstoffe - was können sie, wo sind ihre Grenzen", ACA-Info - Das Magazin der AUSTRIAN COCKPIT ASSOCIATION, Ausgabe Sept - Okt. (2014), pp. 24-27
2. Degenhardt, "Mit Gewichtsreduktion für den ALL-Tag", IHK-Hamburg, Best of Science - Wo Wirtschaft und Wissenschaft erfolgreich kooperieren 2017/2018, pp. 8-9
3. Degenhardt R., Reinsch A., Schullerer G., Block T., Müller K., Schütze R., "Moderne Tragkonstruktionen aus Faserverbunden - Die Vielseitigkeit im Ingenieurbau", *Deutsches Ingenieurblatt*, Ausgabe Dezember (2018), pp. 46-54
4. Degenhardt R., Reinsch A., Schullerer G., Block T., Müller K., "Tragkonstruktionen aus Faserverbunden – Ein neues Sachgebiet der Ingenieurkammer Niedersachsen", CFK-Valley Innovation Report 2019, pp. 14-17

## VII. Full papers in scientific journals (reviewed)

1. Degenhardt R., Rolfes R., Zimmermann R., Rohwer K., "COCOMAT - Improved MATerial Exploitation at Safe Design of COMposite Airframe Structures by Accurate Simulation of COLLapse", *Composite Structures*, Vol. 73 (2006), pp. 175-178
2. Kling A., Degenhardt R., Zimmermann R., "A Hybrid Subspace Analysis Procedure for Non-Linear Postbuckling Calculation", *Composite Structures*, Vol. 73 (2006), pp. 162-170
3. Degenhardt R., Kling A., Klein H., Hillger W., Goetting Ch., Zimmermann R., Rohwer K., Gleiter A., "Experiments on Buckling and Postbuckling of Thin-Walled CFRP Structures using Advanced Measurement Systems", *International Journal of Structural Stability and Dynamics*, Vol. 7, No. 2 (2007), pp. 337-358
4. Orifici A. C., Thomson R. S., Degenhardt R., Bisagni, C., Bayandor J., "Development of a finite element methodology for the propagation of delaminations in composite structures", *Mechanics of Composite Materials*, Vol. 43, no. 1 (2007), pp. 9-28
5. Degenhardt R., Kling A., Rohwer K., Orifici A. C., Thomson R. S., "Design and Analysis of Stiffened Composite Panels Including Postbuckling and Collapse", *Computers and Structures* Vol. 86 (2008), pp. 919-929
6. Orifici A. C., Thomson R. S., Degenhardt R., Kling A., Rohwer K., Bayandor J., "Degradation investigation in a postbuckling composite stiffened fuselage panel", *Composite Structures* Vol. 82, no. 2 (2008), pp. 217-224
7. Degenhardt R., Wilckens D., Klein H., Kling A., Hillger W., Goetting Ch., Rohwer K., Gleiter A., "Experiments to detect the damage progress of axially compressed CFRP panels under cyclic loading", Special volume of *Key Engineering Materials* Vol. 383 (2008) pp 1-24
8. Orifici, A.C., Thomson, R.S., Herszberg, I., Weller, T., Degenhardt, R., Bayandor, J., 'An analysis methodology for failure in postbuckling skin-stiffener interfaces', *Composite Structures* vol. 86, (2008), pp. 186-193
9. Orifici A. C., Thomson R. S., Degenhardt R., Bisagni, C., Bayandor J., "A finite element methodology for analysing degradation and collapse in postbuckling composite aerospace structures", *Journal of Composite Materials*, Vol. 43, pp. 3239-3263, (2009)

10. Bruyneel M., Degenhardt R., Delsemme J., „An industrial solution to simulate post-buckling and damage of composite panels”, *JEC Composites Magazine* N°48, 38-39 (2009)
11. Kelly D.W., Lee M.C.W., Orifici A.C., Thomson R.S., Degenhardt R., “Collapse Analysis, Defect Sensitivity and Load Paths” *Computers, Materials and Continua*, Vol.10(2), pp. 163-194 (2009)
12. Lee M. C. W., Kelly D. W., Degenhardt R., Thomson R., “A study on the robustness of two stiffened composite fuselage panels”, *Composite Structures*, Vol. 92(2), (2010), pp. 223-232
13. Lee M. C. W., Mikulik Z., Kelly D. W., Thomson R., Degenhardt R., “Robust design – A concept for imperfection insensitive composite structures”, *Composite Structures* Vol. 92 (6), (2010), pp. 1469-1477
14. Degenhardt R., Kling A., Bethge A., Orf J., Kärger L., Rohwer K., Zimmermann R., Calvi A., “Investigations on imperfection sensitivity and deduction of improved knock-down factors for unstiffened CFRP cylindrical shells”, *Composite Structures*, Vol. 92 (8), (2010), pp. 1939–1946
15. Wilckens D., Degenhardt R., Rohwer K., R., Zimmermann R., Kepke M., Hildebrandt B., Zipfel A., “Cyclic buckling tests of pre-damaged CFRP stringer stiffened panels”, *International Journal of Structural Stability and Dynamics*, Vol. 10, No. 4 (2010), pp. 827-852
16. Merrazzi S., Degenhardt R., Rohwer K., “Postbuckling analysis of composite shell structures: Toward fast and accurate tools with implicit fem methods”, *International Journal of Structural Stability and Dynamics*, Vol. 10, No. 4 (2010), pp. 941-948
17. Orifici A. C., Thomson R. S., Degenhardt R., Bisagni, C., Bayandor J., “An analysis tool for design and certification of postbuckling composite aerospace structures”, *International Journal of Structural Stability and Dynamics*, Vol. 10, No. 4 (2010), pp. 669-682
18. Silva N., Camotim D., Silvestre N., Degenhardt R., “On the use of generalized beam theory to assess the buckling and postbuckling behavior of laminated CFRP cylindrical stiffened panels”, *International Journal of Structural Stability and Dynamics*, Vol. 10, No. 4 (2010), pp. 737-760
19. Kalnins K., Rikards R., Auzins J., Bisagni C., Abramovich H., Degenhardt R., “Metamodeling methodology for postbuckling simulation of Damaged composite stiffened structures with physical validation”, *International Journal of Structural Stability and Dynamics*, Vol. 10, No. 4 (2010), pp. 705-716
20. Degenhardt R., Szodruch J., Plass S., “IFAR- International Forum for Aviation Research”, Book “Future Aeronautical Communications”, ISBN 978-953-307-625-6, pp. 335-348, (2011)
21. Degenhardt R., “Auslegung von zukünftigen Flugzeugstrukturen aus CFK bezüglich Stabilität”, *Ingenieurspiegel*, Vol 1, (2011), pp. 70-71
22. Degenhardt R., Kling A., Zimmermann R., Odermann F., F. C. de Araújo, “Dealing with imperfection sensitivity of composite structures prone to buckling”, Book “Advances in Computational Stability Analysis”, <http://dx.doi.org/10.5772/45810>, (2012)
23. D. Wilckens, F. Odermann, A. Kling, R. Degenhardt, „Buckling and post buckling investigation of stringer stiffened CFRP panels under in-plane loading - experimental investigations”, Chapter in the book: “Adaptive, Tolerant and Efficient Composite Structures”, Springer, (2012), Book, ISBN-13: 978-3642291890, pages 189-197
24. Balzani C., Wagner W., Wilckens D., Degenhardt R., Büsing S., Reimerdes H.-G., ”Adhesive Joints in Composite Laminates - A Combined Numerical/Experimental Estimate of Critical Energy Release Rates”, *International Journal of Adhesion & Adhesives*, Vol. 32, (2012), pp.23–38
25. Arbelo M., Zimmermann R., Castro S., Degenhardt R., „Comparison of new design guidelines for composite cylindrical shells prone to buckling”, *Composite Science and Technology*, (2013)
26. F. C. de Araújo, E. F. D'Azevedo, L. J. Gray, and R. Degenhardt, “A SBS-BD based solver for domain decomposition in BE methods”, *Engineering Analysis with Boundary Elements* 37 (2013), pages 1267-1275
27. F.R.S. da Cunha, T. Wille, R. Degenhardt, M. Sinapius, F.C. de Araújo, Zimmermann, R., “A Robustness-Based Design Strategy for Composite Structures”, *Journal Aircraft Engineering and Aerospace Technology*, Vol. 86/4 (2014), pp 274–286
28. F.R.S. da Cunha, T. Wille, R. Degenhardt, M. Sinapius, F.C. de Araújo, Zimmermann, R., “A robustness-based design strategy for composite structures – probabilistic approach”, *Journal Aircraft Engineering and Aerospace Technology* Vol. 86/4 (2014), pp 262–273
29. Degenhardt R., Castro S., Arbelo M., Zimmerman R., Kling A., Khakimova R., “Future structural stability design for composite space and airframe structures“, *Int. Journal of Thin-Walled Structures*, Vol. 81, (2014), pp.29-38
30. Castro S., A. Arbelo M., Zimmermann R., Khakimova R., Degenhardt R., “Exploring the constancy of the global buckling load after a critical geometric imperfection level in thin-walled cylindrical shells for less conservative knock-down factors“, *Int. Journal of Thin-Walled Structures*, Vol. 72, (2013), pp.76–87, <https://doi.org/10.1016/j.tws.2013.06.016>
31. Arbelo M., Degenhardt R., Castro S., Zimmermann R., “Numerical characterization of imperfection sensitive composite structures”, *Int. Journal of Composites Structures*, Vol. 108, (2014), pp. 295-303, <https://doi.org/10.1016/j.compstruct.2013.09.041>
32. Arbelo M., Almeida S., Danadon M., Rett S., Degenhardt R., Castro S., Kalnins K., Ozolins O., “Vibration correlation technique for the estimation of real boundary conditions and buckling load of unstiffened plates and cylindrical shells“, *Int. Journal of Thin-Walled Structures*, Vol. 79, (2014), pp.119-128, <https://doi.org/10.1016/j.tws.2014.02.006>
33. Khakimova R., Zimmermann R., Castro S., Arbelo M., Degenhardt R., “The single perturbation load approach applied to imperfection sensitive conical composite structures”, *Int. Journal of Thin-Walled Structures*, Vol. 84, (2014), pp. 369–377, <https://doi.org/10.1016/j.tws.2014.07.005>
34. Arbelo, M., Herrmann, A., Castro, S., Khakimova, R., Zimmerman, R., Degenhardt, R., “Investigation of Buckling Behavior of Composite Shell Structures with Cutouts” *Applied Composite Materials*, Vol 22, (2014), Issue 6, pp 623–636, DOI: 10.1007/s10443-014-9428-x

35. Castro S., A. Arbelo M., Zimmermann R., Khahimova R., Degenhardt R., Hilburger M., “Geometric imperfections and lower-bound methods used to calculate knock-down factors for composite cylindrical shells “, *Int. Journal of Thin-Walled Structures*, Vol. 74, (2014), pp. 118–132, <https://doi.org/10.1016/j.tws.2013.08.011>
36. Castro S., Mittelstedt C., Monteiro F., A. Arbelo M., Ziegmann G., Degenhardt R., “Linear buckling predictions of unstiffened laminated composite cylinders and cones under various loading and boundary conditions using semi-analytical models”, *Int. Journal of Composite Structures*, Vol. 118 (2014), pp. 303-315, <https://doi.org/10.1016/j.compstruct.2014.07.037>
37. Di Pasqua M., Khakimova R., Castro S., Arbelo M., Riccio A., Degenhardt R., “The influence of Geometrical parameters on the buckling behavior of conical shell by the Single Perturbation Load Approach”, *Int. Journal of Applied Composite Materials*, DOI 10.1007/s10443-014-9414-3 (2014)
38. Khakimova R., Burau F., Zimmermann R., Degenhardt R., Siebert M., “Design and manufacture of conical shell structures using prepreg laminates“, *Int. Journal of Applied Composite Materials*, Vol. 23 (2015), Issue 3, pp 289–312, 10.1007/s10443-015-9461-4
39. Arbelo M., Kalnins K., Almeida S., Ozolins O., Skukis E., Castro S., Degenhardt R., “Experimental and numerical estimation of buckling load on unstiffened cylindrical shells using vibration correlation technique”, *Int. Journal of Thin-Walled Structures*, Vol. 94 (2015) pp. 273–279, <https://doi.org/10.1016/j.tws.2015.04.024>
40. Kepple J., Herath M., Pearce G., Prusty G., Thomson R., Degenhardt R., “Stochastic Analysis of Imperfection Sensitive Unstiffened Composite Cylinders using Realistic Imperfection Models”. *Int. Journal of Composite Structures* Vol. 126, (2015), pp. 159-173, <https://doi.org/10.1016/j.compstruct.2015.02.063>
41. Castro S., Mittelstedt C., Monteiro F., A. Arbelo M., Degenhardt R., “A semi-analytical approach for the linear and non-linear buckling analysis of imperfect unstiffened laminated composite cylinders and cones under axial, torsion and pressure loads“, *Int. Journal of Thin-Walled Structures*, Vol. 90 (2015) pp. 61–73, DOI: 10.1016/j.tws.2015.01.002
42. Castro S., Mittelstedt C., Monteiro F., Ziegmann G., Degenhardt R., Evaluation of non-linear buckling loads of geometrically imperfect composite cylinders and cones with the Ritz method, *Int. Journal of Composite Structures*, Vol. 122, (2015), pp 284-299, <https://doi.org/10.1016/j.compstruct.2014.11.050>
43. Kalnins K, Arbelo M., Ozolins O., Skukis E., Castro S., Degenhardt R., “Experimental Nondestructive Test for Estimation of Buckling Load on Unstiffened Cylindrical Shells Using Vibration Correlation Technique”, *Int. Journal of Shock and Vibrations*, Vol. 2015, Article ID 729684, <http://dx.doi.org/10.1155/2015/729684>
44. Kepple J., Herath M., Pearce G., Prusty G., Thomson R., Degenhardt R., “Improved stochastic methods for modelling imperfections for buckling analysis of composite cylindrical shells”, *Engineering Structures* Vol. 100, (2015), pp.385-398, <https://doi.org/10.1016/j.engstruct.2015.06.013>
45. Di Pasqua M., Khakimova R., Castro S., Arbelo M., Riccio A., Raimondo A., Degenhardt R., “Investigation on the Geometric Imperfections driven Local Buckling Onset in Composite Conical Shells”, *Int. Journal of Applied Composite Materials*, Vol. 23, Issue 4, pp 879–897 (2016), DOI 10.1007/s10443-016-9490-7
46. Khakimova R., Wilckens D., Zimmermann R., Degenhardt R., “Buckling of axially compressed CFRP truncated cones with additional lateral load: experimental and numerical investigation“, *Int. Journal of Composite Structures*, Vol. 157 (2016), pp. 436-447, <https://doi.org/10.1016/j.compstruct.2016.08.011>
47. Khakimova R., Wilckens D., Reichardt J., Zimmermann R., Degenhardt R., “Buckling of axially compressed CFRP truncated cones: experimental and numerical investigation” *Int. Journal of Composite Structures*, Vol. 146 (2016), pp. 232-247, <https://doi.org/10.1016/j.compstruct.2016.02.023>
48. Khakimova R., Castro S., Wilckens D., Rohwer K., Degenhardt R., “Buckling of axially compressed CFRP cylinders with and without additional lateral load: experimental and numerical investigation “, *Int. Journal of Composite Structures*, Vol. 119 (2017) pp. 178–189, <https://doi.org/10.1016/j.tws.2017.06.002>
49. Franzoni F., Wilckens D., Odermann F., Skukis E., Kalniņš K., Arbelo M., Degenhardt R., „Assessing the Buckling Load of a Pressurized Orthotropic Cylindrical Shell Through Vibration Correlation Technique”, *Thin-Walled Structures*, Vol. 137, (2019), pp 353-366, <https://doi.org/10.1016/j.tws.2019.01.009>
50. Franzoni F., Degenhardt R., Albus J., Arbelo M., Vibration correlation technique for predicting the buckling load of imperfection-sensitive isotropic cylindrical shells: an analytical and numerical verification, *Thin-Walled Structures*, Vol. 140, (2019), pp 236-247, <https://doi.org/10.1016/j.tws.2019.03.041>
51. Franzoni F., Odermann F., Lanbans E., Bisagni C., Arbelo M., Degenhardt R., „Experimental validation of the vibration correlation technique robustness to non-destructive buckling load prediction of the composite cylinders”, *Int. Journal of Composite Structures*, Vol. 224 (2019), <https://doi.org/10.1016/j.compstruct.2019.111107>
52. Khakimova R., Wilckens D., Degenhardt R., “Experimental and numerical investigation of CFRP cylinders with circular cutouts under axial compression“, *Int. Journal of Thin-Walled Structures*, (<https://doi.org/10.1016/j.tws.2019.106526>)
53. Gliszczynski A., Bogenfeld R. Degenhardt R., Kubiak T., “Corner impact and Compression After Impact (CAI) of thin-walled composite profile – an experimental study”, *Composites Structures*, Vol. 248 (2020), (<https://doi.org/10.1016/j.compstruct.2020.112502>)
54. Davoud Shahgholian-Ghahfarokhi D., Hossein Rahimi G., Liaghat G., Degenhardt R., Franzoni F., “Buckling prediction of composite lattice sandwich cylinders (CLSC) through the vibration correlation technique (VCT): Numerical assessment with experimental and analytical verification”, *Composites Part B*, Vol. 199 (2020), <https://doi.org/10.1016/j.compositesb.2020.108252>
55. Al-Kathemi N., Wille T., Heinecke F., Degenhardt R, Wiedemann M., Interaction Effect of Out of Plane Waviness and Impact Damages on composite structures – An Experimental Study, *Int. Journal of Composites structures*, Vol. 276 (2021), <https://doi.org/10.1016/j.compstruct.2021.114405>
56. Pillona F. R., Ribeiro I. S., de Araujo F., Degenhardt R., “Time-domain analysis of framed structures based on "exact" structural-property matrices for nonprismatic Timoshenko’s elements”, *Int. Journal of Advances in Engineering Software*, Vol. 103, (2022), pp 421-444, <https://doi.org/10.1016/j.apm.2021.10.048>

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58. Banat D., Mania R. J., Degenhardt R., Stress state failure analysis of thin-walled GLARE composite members subjected to axial loading in the post-buckling range, *Computers & structures*, Vol. 289, (2022), <https://doi.org/10.1016/j.compstruct.2022.115468>
59. Gliszczynski A., Franzoni F., Baciú T., Arbelo M., Degenhardt R., Enhanced vibration correlation technique to predict the buckling load of unstiffened composite cylindrical shells, *Journal of Sound and Vibration*, Vol. 539, (2022), <https://doi.org/10.1016/j.jsv.2022.117280>
60. Baciú T., Degenhardt R., Franzoni F., Gliszczynski A., Arbelo M., Castro S., Kalnins K., Uncertainty quantification and sensitivity analysis for buckling characterisation using the vibration correlation technique, *Int. Journal of Thin-Walled Structures* (submitted)

### VIII. Conference papers

1. Kling A., Degenhardt R., "Nachbeulverhalten von Flugzeugrumpfschalen", *13<sup>th</sup> German ABAQUS Users Conference*, Freiburg, Germany, 24-25 September, **2001**
2. Degenhardt R., Klein H., Kling A., Temmen H., Zimmermann R., "Buckling and postbuckling analysis of shells under quasi-static and dynamic loads", *Workshop „Schwarzer Rumpf (CFRP for Future Aircraft Structures)“*, Braunschweig, Germany, 20 October, 2001
3. Möcker T., Reimerdes H.-G., Degenhardt R., Zimmermann R., "Postbuckling Analysis of CFRP Stringer Stiffened Panels - Benchmarking and Development of Fast Tools", *International Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Eilat, Israel, March 1-2, **2004**
4. Kling A., Degenhardt R., Zimmermann R., "Postbuckling Analysis of CFRP Stringer Stiffened Panels - Development of a Fast Design Tool", *Int. Conf. on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Eilat, Israel, March 1-2, 2004
5. Degenhardt R., Rolfes R., Zimmermann R., Rohwer K., "COCOMAT - Improved MATerial Exploitation at Safe Design of COmposite Airframe Structures by Accurate Simulation of COllapse", *International Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Eilat, Israel, March 1-2, 2004
6. Degenhardt R., Rohwer K., Wagner W., Delsemme J.-P., "Postbuckling and collapse analysis of stringer stiffened panels – A GARTEUR activity", *4<sup>th</sup> International Conference on Thin-Walled Structures*, Loughborough, England, 22-24 June, 2004
7. Rolfes R., Tessmer J., Degenhardt R., Temmen H., Bürmann P., Juhasz J., "New Design Tools for Lightweight Aerospace Structures", *7<sup>th</sup> Int. Conf. on Computational Structures Technology*, Lisbon, Portugal, 7-9 September, 2004
8. Degenhardt R., Delsemme J.-P., "Buckling and Postbuckling Analysis of a CFRP Stiffened Panel for a Better Material Exploitation", *SAMTECH Users Conferences*, Paris, France, 2-3 February, **2005**
9. Degenhardt R., Zimmermann R., Rolfes R., Rohwer K., "Improved Material Exploitation of Composite Airframe Structures by Accurate Simulation of Postbuckling and Collapse – The projects POSICOSS and COCOMAT", *11<sup>th</sup> Australian International Aerospace Congress*, Melbourne, Australia, 13-17 March, 2005
10. Orifici A. C., Thomson R. S., Gunnion A. J., Degenhardt R., Abramovich H., Bayandor J., "Benchmark Finite Element Simulations of Postbuckling Composite Stiffened Panels", *11<sup>th</sup> Australian International Aerospace Congress*, Melbourne, Australia, 13-17 March, 2005 (Reviewed paper)
11. Kling A., Degenhardt R., Klein H., Tessmer J., Zimmermann R., "Novel stability design scenario for aircraft structures – simulation and experimental validation", *5<sup>th</sup> International Conference on Computation of Shell and Spatial Structures*, 1-4 June, 2005 Salzburg, Austria
12. Araújo F. C., Silva K. I., Degenhardt R., "3D analysis of coupled thin-walled structural elements by means of standard boundary-element formulations", *Mechanics & Materials Conference*, Baton Rouge, Louisiana, 1-3 June, 2005
13. Degenhardt R., Tessmer J., "Advances in Computational Stability Analysis of Composite Aerospace Structures", *Int. Congress on FEM Technology - 23<sup>rd</sup> CADFEM Users' Meeting*, Bonn, Germany, 9-11 November, 2005
14. Orifici A. C., Thomson R. S., Degenhardt R., Kling A., Rohwer K., Bayandor J., "Degradation investigation in a postbuckling composite stiffened fuselage panel", *13<sup>th</sup> International Conference of Composite Structures*, Melbourne, Australia, 14-16 November, 2005
15. Gleiter A., Riegert G., Zweschper Th., Degenhardt R., Busse G., "Advanced ultrasound activated Lockin-Thermography for defect selective depth resolved imaging", *28<sup>th</sup> Thermosense Conference*, Orlando, USA, 17-20 April, **2006**
16. Orifici A. C., Thomson R. S., Degenhardt R., Bisagni C., Bayandor J., "Development of a Finite Element Analysis Methodology for the Propagation of Delaminations in Composite Structures", *XIV International Conference on Mechanics of Composite Materials*, Riga, Latvia, 29 May 2 June, 2006
17. Degenhardt R., Kling A., Rohwer K., "Design and Analysis of Composite Panels", *III European Conference on Computational Mechanics*, Lissabon, 5-8 June, 2006
18. Orifici A. C., Thomson R. S., Degenhardt R., Bisagni C., Bayandor J., "Development of a Degradation Model for the Collapse Analysis of Composite Aerospace Structures", *III European Conf. on Computational Mechanics*, Lissabon, 5-8 June, 2006
19. Degenhardt R., "Improved Exploitation of Composite Airframe Structures by Accurate Simulation of Collapse – The COCOMAT project", *Aeronautics Days*, Vienna, Austria, 19-19-21 June, 2006
20. Degenhardt R., Kling A., Rohwer K., "Future Design Scenario for Composite Airframe Panels", *25<sup>th</sup> Congress of International Council of the Aeronautical Sciences*, Hamburg, Germany, 3-8 September, 2006

21. Kling A., Degenhardt R., Zimmermann R., "A Flexible Subspace Analysis Procedure for Non-linear Calculations", *25<sup>th</sup> Congress of International Council of the Aeronautical Sciences*, Hamburg, Germany, 3-8 September, 2006
22. Temmen H., Degenhardt R., Raible T., "Tailored Fibre Placement Optimization Tool", *25<sup>th</sup> Congress of International Council of the Aeronautical Sciences*, Hamburg, Germany, 3-8 September, 2006
23. Degenhardt R., Wilhelmi J., Grünwald A., "Development and Application of a new Design Tool for Aerospace Structures", *25<sup>th</sup> Congress of International Council of the Aeronautical Sciences*, Hamburg, Germany, 3-8 September, 2006
24. Rohwer K., Degenhardt R., "COCOMAT – ein EU-Projekt zur Simulation des Beulverhaltens geschädigter Schalen aus Faserverbundmaterial", *Jubiläum der Zeitschrift Technische Mechanik*, 22 September, 2006
25. Degenhardt R., Klein H., "Stabilität von Faserverbundschalen", *Wissenschaftstag 2006, Strukturmechanik des CFK-Rumpfes*, Braunschweig, Germany, 28 September, 2006
26. Degenhardt R., "Future Design for Composite Airframe Structures – The Projects POSICOSS and COCOMAT", *4<sup>th</sup> International Conference on New Aerospace Trends*, Bilbao, Spain, 26-27 October, 2006
27. Degenhardt R., Tessmer J., "New Achievements in Stability of Composite Airframe Structures", *12<sup>th</sup> Australian International Aerospace Congress*, Melbourne, Australia, 19-22 March, 2007
28. Orifici A. C., Thomson R. S., Degenhardt R., Büsing S., Bayandor J., "Development of a Finite Element Methodology for Modelling Mixed-Mode Delamination Growth in Composite Structures", *12<sup>th</sup> Australian International Aerospace Congress*, Melbourne, Australia, 19-22 March, 2007
29. Kling A., Baaran J., Kärger L., Teßmer J., Degenhardt R., "Potentials and Limitation of FE-based Simulation Methods for Fibre Composite Structures", *NAFEMS Seminar Zuverlässiger Einsatz Numerischer Simulationen in der Vorausberechnung, Widerspruch – Herausforderung – Erfolgsfaktoren*, Wiesbaden, 28-29 March, 2007
30. Degenhardt R., Tessmer J., "Improved Design Scenario for Composite Airframe Structures", *48<sup>th</sup> AIAA Conference on Structures, Structural Dynamics and Materials*, Hawaii, USA, 23-26 April, 2007
31. Aschenbrenner L., Temmen H., Degenhardt R., "Tailored Fibre Placement Optimization Technology – Optimisation and Computation of CFRP structures", *ESAComp User's Meeting*, Braunschweig, Germany, 24-25 April, 2006
32. Rohwer K., Degenhardt R., "Simulating Postbuckling Behaviour and Collapse of Stiffened CFRP Panels", *NAFEMS World Congress 2007*, Vancouver, Canada, 22-25 May, 2007
33. Degenhardt R., Bethge A., Rohwer K., Zimmermann R., Kling A., "Probabilistic Approach for better Buckling Knock-down Factors of CFRP Cylindrical Shells - Tests and Analyses", *18<sup>th</sup> Engineering Mechanics Division Conference of the American Society of Civil Engineers*, Blacksburg, Virginia, USA, 3-6 June, 2007
34. Degenhardt R., Bethge A., Rohwer K., Zimmermann R., Kling A., Tessmer J., Calvi A., "Probabilistic approach for an improved buckling knock-down factors of CFRP cylindrical shells", *1<sup>st</sup> European Air and Space Conference (CEAS)*, Berlin, Germany, 10-13 September, 2007
35. Orifici A. C., Thomson R. S., Degenhardt R., "Development of a Finite Element Methodology for the Collapse Analysis of Composite Aerospace Structures", *Thematic Conference on Mechanical Response of Composites (ECCOMAS)*, Porto, Portugal, 12-14 September, 2007
36. Orifici A. C., Herszberg I., Thomson R. S., Weller T., Degenhardt R., "An analysis methodology for failure in postbuckling skin-stiffener interfaces", *14<sup>th</sup> Int. Conference on Composite Structures*, Melbourne, Australia (ICCS), 19-21 November, 2007
37. Degenhardt R., Rohwer K., "Achievements in the Exploitation of Composite Airframe Structures by Accurate Simulation of Collapse", *48<sup>th</sup> Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, 27-28 February, 2008
38. Wilckens D., Degenhardt R., Kepke M., Hildebrandt B., Rohwer K., Tessmer J., Gleiter A., "Experiments to detect the damage progress of axially compressed CFRP panels under cyclic loading", *48<sup>th</sup> Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, 27-28 February, 2008
39. Lee M. C. W., Thomson R., Degenhardt R., Kelly D. W., "Imperfection investigation of composite stiffened fuselage panels for Postbuckling analyses", *5<sup>th</sup> International Conference on Thin-Walled Structures*, Brisbane, Australia, 18-20 June, 2008
40. Calvi A., D'Amico J., Degenhardt R., "Recent Experiences and Future Developments on the Validation of Finite Element Models for Spaceflight Hardware", *8<sup>th</sup> World Congress on Computational Mechanics (WCCM8)*, Venice, Italy, 30 June – 5 July, 2008
41. Degenhardt R., Wilckens D., Rohwer K., Zimmermann R., Tessmer J., "Improved Material Exploitation of Composite Airframe Structures by Accurate Simulation of Collapse - The COCOMAT project.", *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
42. Wilckens D., Degenhardt R., Rohwer K., "IBUCK - A fast simulation tool for the design of CFRP aerospace structures", *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
43. Degenhardt R., Wilckens D., Rohwer K., Kepke M., Hildebrandt B., Zipfel A., "Buckling and collapse tests using advanced measurement systems", *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
44. Silva N. M. F., Degenhardt R., Camotim D., Silvestre N., "Application of generalised beam theory to the study of the stability behaviour of laminated CFRP cylindrical stiffened panels", *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
45. Lee M., Thomson R., Degenhardt R., Kelly D.W., "A stochastic study on the robustness of a stiffened composite structure", *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008

46. Orf J., Kärger L., Degenhardt R., Bethge A., Tessmer J., „The influence of imperfections on the buckling behaviour of unstiffened CFRP-cylinders“, *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
47. Steinmüller P., Breitsch A., Degenhardt R., Rohwer K. Investigations of axially loaded unstiffened CFRP cylindrical shells subject to single perturbation loads “, *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
48. Wang H., Büschel A., Degenhardt R., Rohwer K., Sun X., Wagner W., „Empirical formula for the critical perturbation load“, *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
49. Orifici A., Thomson R. S., Degenhardt R., „An analysis tool for design and certification of postbuckling composite aerospace structures“, *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
50. Rikards R., Kalnins K., Degenhardt R., „Overview of slow computational and fast simulation tools developed during the project COCOMAT“, *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
51. Caruso A., Pietroni V., Masiero E. Poggi S., Degenhardt R., “Material properties, design of structures and degradation models“, *2<sup>nd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 3-5 September, 2008
52. Orifici A., Thomson R. S., Degenhardt R., “The use of damage as a design parameter for postbuckling composite aerospace structures”, *26<sup>th</sup> Congress of International Council of the Aeronautical Sciences*, Anchorage, Alaska, USA, 14 - 19 September, 2008
53. Degenhardt R., Teßmer J., Kling A., “Collapse Behaviour of Thin-Walled CFRP Structures due to Material and Geometric Nonlinearities – Experiments and Simulation”, *26<sup>th</sup> Congress of International Council of the Aeronautical Sciences*, Anchorage, Alaska, USA, 14 - 19 September, 2008
54. Degenhardt R., “Challenges in the design of future structures made of CFRP”, *2<sup>nd</sup> SAIAS Symposium*, Stellenbosch, South Africa, 14-16 September 2008
55. Degenhardt R., “Advances in Stability of Composite Airframe Structures Regarding Collapse, Robust Design and Dynamic Loading”, *ABAQUS Users-Meeting*, Bad-Homburg, Germany, 22.-23. September 2008
56. Degenhardt R., “New Achievements in Stability of Composite Structures”, *3<sup>rd</sup> Int. Conference Supply on the Wings*, Frankfurt, Germany, 11-13 November, 2008
57. Degenhardt R., Unckenbold W., Sierke B.R.A., Baar. A., “New Course of Studies in Composites and Adaptronics”, *3<sup>rd</sup> Int. Conference Supply on the Wings*, Frankfurt, Germany, 11-13 November, 2008
58. Degenhardt R., “New achievements in stability of unstiffened CFRP structures”, *Int. Conference on Computational & Experimental Engineering and Sciences*, Phuket, Thailand, 8-13 April, **2009 (invited keynote)**
59. Kelly D. W., Lee M. C. W., Thomson R. S., Degenhardt R., “Collapse Analysis, Defect Sensitivity and Load Paths in Stiffened Shell Composite Structures”, *Int. Conference on Computational & Experimental Engineering and Sciences*, Phuket, Thailand, 8-13 April, 2009
60. Degenhardt R., “Strategien für das Maßschneidern von Faserverbundstrukturen in der Luft- und Raumfahrt”, Hannover Industrie-Messe, Suppliers Convention, Hannover, 21 April, 2009 (**invited**)
61. Lee M. C. W., Mikulik Z., Kelly D. W., Thomson R., Degenhardt R., “Robust design – A concept for imperfection insensitive composite structures”, *15<sup>th</sup> Int. Conf. on Composite Structures*, Porto, Portugal, 15-17 June, 2009
62. Degenhardt R., Wilckens D., Rohwer K., Kepke M., Hildebrand B., Zipfel A., “Experiments on buckling and postbuckling of thin-walled CFRP structures”, *3<sup>rd</sup> Int. European Conference for Aerospace Sciences*, Paris, France, 6-9 July, 2009
63. Degenhardt R., “Future Design for Composite Airframe Panels”, *Asian Aerospace Shenyang Congress*, , China, 7-9 July 2009 (**invited keynote**)
64. Degenhardt R., “New Achievements in Stability of Composite Structures”, *Asian Aerospace Shenyang Congress*, Shenyang, China, 7-9 July 2009 (**invited**)
65. Degenhardt R., “Challenges for a multidisciplinary design of the future aircraft”, *Conference on Interdisciplinary research at German universities*, Riga, Latvia, 16 October, 2009
66. Degenhardt R., „CFK-Anwendungen im Flugzeugbau und Schiffbau“, Conference „*Schifffahrt meets Luftfahrt*“, Hamburg, Germany, 29 October 2009
67. Degenhardt R., Wiedemann M., Hermann Axel, Baar A., “Challenges in the design of future structures made of CFRP”, *11<sup>th</sup> Int. Conference for Car Body Engineering (Karosseriebau)*, Hamburg, Germany, May 11-12, **2010**, (invited)
68. Lee M., Mikulik Z., Degenhardt R., “A Stochastic Approach for Robust Structures under Compressive Loading”, *World Congress on Computational Mechanics (WCCM 2010)*, Sydney, Australia, July 19-23, 2010
69. Lee M., Keely D., Degenhardt R., “Towards an Algorithm for the Design of Robust Composite Structures”, *IV European Conference on Computational Mechanics*, Paris, France, May 16-21, 2010
70. Degenhardt R., Kling A., de Araújo F. C., “Advances in Computational Stability Analysis of Composite Aerospace Structures“, *8<sup>th</sup> International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2010)*, Rhodes, Greece, September 19-23, 2010, (**invited**)
71. de Araújo F. C., Degenhardt R., “Substructure-based Block-diagonal Preconditioning for BEM Systems of Equations - Applications to the Micromechanical Analysis of General Composites“, *8<sup>th</sup> International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2010)*, Rhodes, Greece, September 19-23, 2010
72. Degenhardt R., “Improved Exploitation of Composite Airframe Structures by Accurate Simulation of Collapse – The COCOMAT project”, *Aeronautics Days*, Madrid, Spain, 29 March – 1 April, **2011, (invited)**
73. Szodruch J., Degenhardt R., “IFAR- International Forum for Aviation Research”, *Aeronautics Days*, Madrid, Spain, 29 March – 1 April, 2011, (**invited**)

74. Degenhardt R., Kling A., "Future Design for Composite Airframe Structures", *16th International Conference on Composite Structures (ICCS16)*, Porto, Portugal, June 28-30, 2011, **(invited keynote)**
75. Degenhardt R., "New robust design guideline for Imperfection sensitive composite launcher Structures", *3<sup>rd</sup> CEAS Congress*, Venice, Italy, October 24-28, 2011
76. Degenhardt R., Zimmermann R., Kling A., Wilckens D., "Future Structural stability Design for Composite space and Airframe Structures", *6<sup>th</sup> Int. Space World*, Frankfurt, Germany, 2-4 November, 2011
77. da Cunha F., Chaves C., Degenhardt R., Araujo F. C. de, Wille T., "Analysis of structures under uncertainties", *6<sup>th</sup> Int. Conf. Supply on the Wings*, Frankfurt, Germany, 2-4 November, 2011
78. Degenhardt R., "Future Structural stability Design for Composite space and Airframe Structures", *32<sup>th</sup> Iberian Latin American Congress on Computational Methods in Engineering (CILAMCE)*, Ouro Preto, Brazil, 13-16<sup>th</sup> November 2011, **(invited keynote)**
79. Degenhardt R., Zimmermann R., Kling A., Wilckens D., "Challenges to design imperfection sensitive composite launcher structures", *4<sup>th</sup> Int. Conference on Structural Stability and Dynamics*, Jaipur, India, 4-6 January **2012**, **(invited keynote)**
80. Degenhardt R., "Challenges in the Validation of Stability Sensitive Multiaxially Loaded CFRP Structures", DFG Workshop "Inauguration of the new Multiaxial Test Rigs at TU Braunschweig and Hamburg University of Technology", Hamburg, Germany, 3 May 2012
81. de Araújo F. C., Degenhardt R., "On the use of Krylov solvers to develop codes for analyzing generic coupled BE models", *10<sup>th</sup> World Congress on Computational Mechanics (WCCM 2012)*, São Paulo, Brazil, 8 – 13 July, 2012
82. Degenhardt R., "Future design of composite launcher structures", *20<sup>th</sup> International Annual Conference on Composites Engineering (ICCE 20)*, Beijing China, 22-28 July, 2012
83. de Araújo F. C., Degenhardt R., "Krylov solvers and the generic BE subregioning algorithm: application to 3D composites", *Int. Conference on Boundary Element and Meshless Techniques*, Prague, Czech Republic, 3-5 September, 2012
84. De Groof V., Oberguggenberger M., Haller H., Degenhardt R., Kling A., „Quantitative assessment of random field models in finite element buckling analyses of composite cylinders“, *ECCOMAS*, Vienna, Austria, 10 – 14 September, 2012
85. Oberguggenberger M., De Groof V., Haller H., Degenhardt R., Kling A., „A quantitative assessment of random field models in finite element buckling analyses of composite cylinders“, *DGLR Congress*, Berlin, Germany, 10 – 14 September, 2012
86. Degenhardt R., Szodruch J., "IFAR – International Forum for Aviation Research – Contribution to Research and Education on International Level", *10<sup>th</sup> Int. Conference on Research and Education in Aircraft Design 2012*", Brno, Czech Republic, 17-19 October, 2012
87. da Cunha F., Sinapius M., Degenhardt R., Wille T., de Araújo F., "A robust design strategy for thin-walled composite structures under compression load based on the assessment of the structural energy", *7<sup>th</sup> Int. Conf. Supply on the Wings*, Frankfurt, Germany, 6-8 November, 2012
88. Castro S., Degenhardt R., "Stability behaviour of imperfection sensitive composite structures", *7<sup>th</sup> Int. Conf. Supply on the Wings*, Frankfurt, Germany, 6-8 November, 2012
89. de Oliveira L., Degenhardt R., "Studies on the aerolasticity behaviour of wing structures in the postbuckling regime", *7<sup>th</sup> Int. Conf. Supply on the Wings*, Frankfurt, Germany, 6-8 November, 2012
90. Arbelo M., Degenhardt R., Castro S., Zimmermann R., "Investigations related to most critical imperfections of composite structures", *7<sup>th</sup> Int. Conf. Supply on the Wings*, Frankfurt, Germany, 6-8 November, 2012
91. Degenhardt R., "IFAR - International Forum for Aviation Research", *7<sup>th</sup> Int. Conf. Supply on the Wings*, Frankfurt, Germany, 6-8 November, 2012
92. Frenzel P., Degenhardt R., "Evaluation of promising future technologies in Aviation", *7<sup>th</sup> Int. Conf. Supply on the Wings*, Frankfurt, Germany, 6-8 November, 2012
93. Degenhardt R., Castro S., "Future structural stability design for composite space and airframe structures", *6<sup>th</sup> International Conference on Coupled Instabilities in Metal Structures*, Strathclyde University, Scotland, UK, 3-5 December 2012, **(invited keynote)**
94. Arbelo M., Zimmermann R., Castro S., Degenhardt R., "Comparison of new Design Guidelines for Composite Cylindrical Shells prone to Buckling", *ICCST-9 Conference* in Sorrento, Italy, 24-26 April, **2013**
95. Degenhardt R., "Challenges and opportunities future structures made of CFRP", Global Composites panel at the *Int. Conference SAMPE 2013 - Education & Green Sky – Materials Technology for a Better World*, Long Beach, CA (USA), May 6-9, 2013
96. De Groof V., Oberguggenberger M., Haller H., Degenhardt R., Kling A., „A case study of random field models applied to thin-walled composite cylinders in finite element analysis“, *ICOSSAR 2013*, New York, USA, June 16-20, 2013
97. Arbelo M., Degenhardt R., Castro S., Zimmermann R., "Numerical characterization of imperfection sensitive composite structures", *17<sup>th</sup> International Conference on Composite Structures (ICCS17)*, Porto, Portugal, June 17-21, 2013
98. Castro S., Arbelo M., Zimmermann R., Degenhardt R., "On the buckling mechanism of imperfection sensitive monolithic thin-walled unstiffened composite cylinders – physical observations to support less conservative knock-down factors", *17<sup>th</sup> International Conference on Composite Structures (ICCS17)*, Porto, Portugal, June 17-21, 2013
99. da Cunha F., Wille T., Degenhardt R., Sinapius M., de Araújo F., Arakaki F., Zimmermann R., "Robustness Assessment of Stiffened Thin-Walled Composite Structures in Post-Buckling", *17<sup>th</sup> International Conference on Composite Structures (ICCS17)*, Porto, Portugal, June 17-21, 2013
100. de Oliveira L. Degenhardt R., Kling A., Krueger W., Klimmek T., „Aeroelastic Behavior of Composite Wings in Postbuckling Regime“, *17<sup>th</sup> Int. Conf. on Composite Structures (ICCS17)*, Porto, Portugal, June 17-21, 2013
101. Degenhardt R., "Challenges and Opportunities for Future Aircrafts made of CFRP", *21<sup>st</sup> International Annual Conference on Composites Engineering (ICCE 21)* in Tenerife, Spain, 21-27 July, 2013

102. Khakimova R., Castro S., Arbelo M., Degenhardt R., Rohwer K., Zimmermann R., Quappen G., Hinsch S., "Studies of Imperfection Sensitive Conical Composite Structures", *21<sup>st</sup> International Annual Conference on Composites Engineering (ICCE 21)* in Tenerife, Spain, 21-27 July, 2013
103. Xu H., Hui D., Castro S., Arbelo M., Degenhardt R., "Imperfection Sensitivity of Antisymmetric Cross-Ply Cylindrical Shell Under Axial Compression Using Hui's Postbuckling Theory", *21<sup>st</sup> International Annual Conference on Composites Engineering (ICCE 21)* in Tenerife, Spain, 21-27 July, 2013
104. Kepple J., Prusty G., Pearce G., Kelly D., Thomson R., Degenhardt R., "Influence of Imperfections on Axial Buckling Load of Composite Cylindrical Shells", *19<sup>th</sup> Int. Conf. on Composite Materials*, Montreal, Canada, 28 July -3 August, 2013
105. de Oliveira L., Degenhardt R., Kling A., Klimmek T., Krüger W., Wiedemann M., "Dynamic Aeroelastic Stability Analysis of a Composite Wing working in Postbuckling Regime", *8<sup>th</sup> Int. Conf. Supply on the Wings*, Frankfurt, Germany, 5-7 November, 2013
106. Kalnins, K., Ozoliņš, O., Arbelo M., Castro S., Degenhardt, R., "Verification Study on Buckling Behaviour of Composite Cylinder with Eccentric Supports", *51<sup>th</sup> Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, 19-20 February, 2014
107. Arbelo M., Khakimova R., Castro S., Degenhardt R., Rohwer K., Zimmermann R., "Improving the correlation of finite element models using vibration correlation technique on composite cylindrical shells", *51<sup>th</sup> Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, 19-20 February, 2014
108. Khakimova R., Castro S., Arbelo M., Degenhardt R., Rohwer K., Zimmermann R., "Investigating the buckling behaviour of imperfection sensitive conical composite structures subjected to Single Perturbation Load Approach", *51<sup>th</sup> Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, 19-20 February, 2014
109. Degenhardt R. "Future design for imperfection sensitive composite launcher structures", *51<sup>th</sup> Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, 19-20 February, 2014
110. Castro S., Arbelo M., Khakimova R., Degenhardt R., Rohwer K., Zimmermann R., "Ritz Method for the Analysis of Unstiffened Laminated Composite Cylinders and Cones under Axial Compression", *51<sup>th</sup> Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, 19-20 February, 2014
111. Degenhardt R., "New robust design guideline for imperfection sensitive composite launcher structures – The DESICOS project", *European conference on spacecraft structures, materials & environmental testing*, Braunschweig, Germany, 1-4 April, 2014
112. Khakimova R., Zimmermann R., Burau F., Siebert M., Arbelo M., Castro S., Degenhardt R., "Optimization of the manufacturing process of conical shell structures using prepreg laminates", *European conference on spacecraft structures, materials & environmental testing*, Braunschweig, Germany, 1-4 April, 2014
113. Kalnins, K., Ozoliņš, O., Arbelo, M., Degenhardt, R., Castro, P. *Experimental characterization of buckling on composite cylindrical shells with eccentric supports* *European conference on spacecraft structures, materials & environmental testing*, Braunschweig, Germany, 1-4 April, 2014
114. Arbelo, M., Castro, S., Kalnins, K., Ozoliņš, O., Khakimova, R., Degenhardt, R. "Experimental characterization of buckling load on imperfect cylindrical shells using the multiple perturbation load approach", *European conference on spacecraft structures, materials & environmental testing*, Braunschweig, Germany, 1-4 April, 2014
115. Kalnins, K., Arbelo, M., Castro, P., Ozoliņš, O., Khakimova, R., Degenhardt, R., "Experimental characterization of Buckling load on imperfect cylindrical shells using the multiple perturbation load approach", XVIII International Conference Mechanics of Composite Materials MCM2014, Jurmala, Latvia, 2-6 June 2014
116. Degenhardt R., "Challenges and opportunities for the stability design of future composite space and airframe structures", *1st International Conference on Mechanics of Composites* in Long Island, USA, 8-12 June, 2014 (**invited keynote**)
117. Khakimova R., Zimmermann R., Castro S., Arbelo M., Degenhardt R., "An empirical formula of the design load for conical isotropic shell structures obtained by use of Single Perturbation Load Approach", *1st International Conference on Mechanics of Composites*, USA, 8-12 June, 2014
118. Castro S.; Mittelstedt C.; Arbelo M.; Degenhardt R., "Semi-analytical tools for the Single Perturbation Load Approach using the Ritz Method", *1st International Conference on Mechanics of Composites*, in Long Island, USA, 8-12 June, 2014
119. Arbelo, M., Castro, S., Herrmann, A., Khakimova, R., Degenhardt, R., Investigation of buckling behavior of carbon fiber-reinforced composite shell structures with openings. Proceedings of the *1st International Conference on Mechanics of Composites*, USA, 8-12 June, 2014
120. Kalnins, K., Arbelo, M.A., Ozolins, O., Degenhardt, R. Evaluation of Multiple Perturbation Load approach for experimental characterisation of Design buckling load on imperfect cylindrical shells, The 34th International Seminar of The Students' Associations, Warsaw, Poland, 2 September 2014
121. de Oliveira L., Degenhardt R., Klimmek T., "Aeroelastic Behavior of Composite Wings in Postbuckling Regime", *29<sup>th</sup> Congress of the Int. Council of the Aeronautical Sciences (ICAS)*, St. Petersburg, Russia, 7-12 September, 2014
122. Kepple J, Herath M, Pearce G, Prusty G, Thomson R, Degenhardt R., "Improved methods for modelling imperfections for buckling analysis of composite cylindrical shells", *29<sup>th</sup> Congress of the Int. Council of the Aeronautical Sciences (ICAS)*, St. Petersburg, Russia, 7-12 September, 2014
123. Degenhardt R., "Challenges and opportunities for future structures made of CFRP", *2nd Brazilian Conference on Composite Materials (BCCM2)*, São José dos Campos-SP/Brazil, 16-19 September 2014 (**invited keynote**)
124. Khakimova R., Castro S., Degenhardt R., Wilckens D., Kepke M., Hildebrandt B., Odermann F., "Buckling experiments on imperfection sensitive thin-walled structures using additional perturbation loads", *3<sup>rd</sup> Int. Conference on Buckling and Postbuckling Behaviour of Composite Laminated Shell Structures*, Braunschweig, Germany, 25-27 March, 2015

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134. Arbelo M., Kalnins K., Ozolins O., Castro S., Degenhardt R., „Numerical characterization of the knock-down factor on unstiffened cylindrical shells with initial geometric imperfections“, *20<sup>th</sup> Int. Conf. on Composite Materials (ICCM20)*, Copenhagen, Denmark, 19-24 July, 2015
135. Khakimova R., Zimmermann R., Wilckens D., Degenhardt R., „Buckling tests of axially compressed CFRP thin-walled truncated cones“, *10<sup>th</sup> Int. AIRTEC Congress*, Munich, Germany, 3-5 November, 2015
136. Degenhardt R., „New Achievements in Stability of Composite Aerospace Structures“, *Int. Conf. on Vibrations and Buckling*, Port, Portugal, 7-8 March 2016 (**invited keynote**)
137. Degenhardt R., „New design scenario for future composite launcher structures“, *30<sup>th</sup> Congress of the Int. Council of the Aeronautical Sciences (ICAS)*, Daejeon, Korea, 25-30 September, 2016
138. Khakimova R., Degenhardt R., Wilckens D., „Experimental buckling investigation of axially compressed CFRP thin-walled truncated cones and cylinders with cutouts“, *European Conference on Spacecraft Structures, Materials and Environmental Testing (ECSSMET)*, ESA-ESTEC, Noordwijk, Netherlands, 28 May – 1 June 2018
139. Franzoni F., Arbelo M., Degenhardt R., „Numerical assessment of existing vibration correlation techniques“, *European Conference on Spacecraft Structures, Materials and Environmental Testing (ECSSMET)*, ESA-ESTEC, Noordwijk, Netherlands, 28 May – 1 June 2018
140. Degenhardt R., „Achievements in the design of thin-walled composite structures“, *XV<sup>th</sup> Symp. on Stability of Structures*, Zakopane, Poland, 18-20 September 2018 (**invited keynote**)
141. Franzoni F., Albus J., Arbelo M., Degenhardt R., „Analytical, Numerical, and Experimental Predictions for Free Vibrations and Buckling of Pressurized Orthotropic Cylindrical Shells“, *69<sup>th</sup> Int. Astronautical Congress*, Bremen, Germany, 1 – 5 October 2018
142. Degenhardt R., „Future challenges in Composite Structures“, *Int. Conf. on Emerging Trends in Mechanical and Industrial Engineering*, 10-11 October 2019, Haryana, India (**invited keynote**)
143. Baciú T., Franzoni F., Degenhardt R., Gliszczynski A., Arbelo M., Castro S., Kalnins K., „Statistical study on the number of points for robust VCT predictions – a numerical study“, *European Conference on Spacecraft Structures, Materials and Environmental Testing (ECSSMET)*, 23-25 March 2021
144. Degenhardt R., Paraschivoiu D., „IFAR – Infrastructure Database“, *32<sup>nd</sup> Congress of the Int. Council of the Aeronautical Sciences (ICAS)*, Shanghai, China, 7-10 September, 2021
145. Degenhardt R., Franzoni F., Castro S., „Achievements in the buckling of thin-walled composite launcher structures“, *32<sup>nd</sup> Congress of the Int. Council of the Aeronautical Sciences (ICAS)*, Shanghai, China, 7-10 September, 2021
146. Franzoni F., Gliszczynski A., Baciú T., Degenhardt R., „Vibration correlation technique applied to cylindrical and conical shells - an overview of the recent developments“, *XLII CILAMNE Conference*, Foz do Igazu, Brazil, 21-25 November 2022