

15 December, 2021

Curriculum Vitae and List of Publication

Personal Details

Name: Asaf Azulay.

Date and Place of Birth: April 18, 1980, Zefat, Israel.

Regular Military Service: 1998-2004; Military rank: Major (NATO OF-3).

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Education

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| B.Sc. | 2006-2009 | Mechanical Engineering Department, Ben-Gurion University of the Negev, Beer-Sheva, Israel. |
| M.Sc. | 2010-2011 | Mechanical Engineering Department, Ben-Gurion University of the Negev, Beer-Sheva, Israel.
Advisors: Prof. Avi Levy & Dr. Boris Mikhailovich.
Title of Thesis: Study of a Conductive Fluid Flow Development in a Cylindrical Container under a Rotating Magnetic Field. |
| Ph.D. | 2015-2021 | Mechanical Engineering Department, Ben-Gurion University of the Negev, Beer-Sheva, Israel.
Advisors: Prof. Avi Levy & Prof. Alex Yakhot.
Title of Thesis: Linear and Non-Linear Study of Rotating Magnetic-Field-Driven Flow (under review). |

Employment History

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| 2012 - Present | R&D engineer.
Shimon Peres Negev Nuclear Research Center (NRCN). |
| 2017 - Present | Member of the experimental-research group. |
| 2015 - 2017 | Member of the thermo-hydraulic research group. |
| 2013 - 2015 | Head of the LORELEI thermo-hydraulic laboratory. |
| 2012 - 2013 | Member of the LORELEI mechanical design group. |
| 2004 - 2012 | Member and head of different battlefield R&D simulation and performance analysis groups.
Rafael Advanced Defense Systems. |
| 2002 - 2004 | Deputy commander of the War-Games Branch.
Headquarters Training Center.
Ground Forces Command, IDF. |

Honors, fellowships and awards

2016 Katzir fellowship

Refereed Articles in Scientific Journals

- 1) Ben-David O., Levy A., Mikhailovich B., and Azulay A., 3D numerical and experimental study of gallium melting in a rectangular container, *International Journal of Heat and Mass Transfer*, 67, 260–271, 2013.
- 2) Ben-David O., Levy A., Mikhailovich B., and Azulay A., "Magnetohydrodynamic flow excited by rotating permanent magnets in an orthogonal container", *Physics of Fluids*, 26, 097104, 2014.
- 3) Ben-David O., Levy A., Mikhailovich B., and Azulay A., Impact of rotating permanent magnets on gallium melting in an orthogonal container, *International Journal of Heat and Mass Transfer*, 81, 373–382, 2015.
- 4) Ben-David O., Levy A., Mikhailovich, B., Avnaim M. and Azulay A., Impact of Traveling Permanent Magnets on Low Temperature Metal Melting in a Cuboid, *International Journal of Heat and Mass Transfer*, 99, 882–894, 2016.
- 5) Avnaim M.H., Levy A., Mikhailovich, B., Ben-David O., Azulay A., Comparison of 3D Multi-Domain and Single-Domain Models for Describing the Horizontal Solidification of Gallium in a Rectangular Cavity', *Journal of Heat Transfer*, 138(11), 112301, 2016.
- 6) Avnaim M.H., Levy A., Mikhailovich B. & Azulay A. Numerical and Experimental Study of the Traveling Magnetic Field Effect on the Horizontal Solidification in a Rectangular Cavity Part 1: Liquid Metal Flow under the TMF Impact, *International Journal of Heat and Fluid Flow*, 69, 23-32, 2018.
- 7) Avnaim M.H., Levy A., Mikhailovich B. & Azulay A. Numerical and Experimental Study of the Traveling Magnetic Field Effect on the Horizontal Solidification in a Rectangular Cavity Part 2: Acting Forces Ratio and Solidification Parameters, *International Journal of Heat and Fluid Flow*, 69, 9-22, 2018.
- 8) Azulay, A., Mikhailovich, B., Levy, A. and Yakhot, A., Magnetic Field Advection in a Rotating Magnetic Field Driven Flow Induced by a Non-Ideal Inductor, *Physics of Fluids*, 30, 075104, 2018. **Editor's Pick**
- 9) O Werner, A. Azulay, B Mikhailovich, A Levy, Experimental Study of Sidewall Pressure Induced by Ferroparticles in Fluid under a Pulsating Magnetic Field, *Fluids* 5 (2), 98, 2020.
- 10) Azulay, A., Mikhailovich, B., Levy, A. and Yakhot A., On turbulence measurement in rotating magnetic field-driven flow, *Phys. Fluids* 32, 105121, 2020. **Editor's Pick**