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Employment and positions

Institute of Metallurgy and Materials Science, Polish Academy of Sciences: assistant since 1995, from 2008 assistant professor.

Scientific Career

M.Sc.: AGH-University of Science and Technology, 1993

Ph.D.: Institute of Metallurgy and Materials Science, Polish Academy of Sciences, 2008

Scientific achievements

130 papers, among them 51 of them (abstracted) cited by the Institute for Scientific Information in Philadelphia, 4 monography.

The most relevant publications during last 5 years

1.

K.Bukat, Z.Moser, J.Sitek, W.Gąsior, M.Kościelski, **J.Pstruś**, *Investigation of Sn-Zn-Bi solders - Part I: surface tension, interfacial tension and density measurements of SnZn7Bi solders*, Soldering & Surface Mount Technology 22, (2010), 10-16.

2.

K.Bukat, J.Sitek, M.Kościelski, Z.Moser, W.Gąsior, **J.Pstruś**, *Investigation of Sn-Zn-Bi solders - Part II: wetting measurements on SnZn7Bi solders on copper and on PCBs with lead-free finishes by means of the wetting balance method*, Soldering & Surface Mount Technology 22, (2010), 13-19.

3.

J.Pstruś, Z.Moser, W.Gąsior, *Surface properties of liquid In-Zn alloys*, Applied Surface Science, 257, (2011), 3867-3871.

4.

J. Pstruś, P. Fima, W. Gąsior, *Surface Tension, Density, and Thermal Expansion of (Bi-Ag) eut-Zn Alloys*, J. Electron. Mater., 40, (2011), 2465-2469

5.

J. Pstruś, P. Fima, T. Gancarz: *Wetting of Cu and Al by Sn-Zn and Zn-Al eutectic alloys*. Journal of Materials Engineering and Performance, 5 21 (2012) 606-613

6.

T.Gancarz, **J. Pstruś**, P. Fima, S. Mosińska: *Thermal properties and wetting behavior of high temperature Zn-Al-In solders*, Journal of Materials Engineering and Performance, 21 (2012) 599-605.

7.

J. Pstruś, *Surface tension and density of liquid In-Sn-Zn alloys*, Applied Surface Science, 265 (2013) 50-59

8.

T. Gancarz, **J. Pstruś**, W. Gąsior, H. Henein, *Physicochemical properties of SnZn and SAC+Bi alloys*, Journal of Electronic Materials, 42, 2 (2013) 288-293

9.

T. Gancarz, **J. Pstruś**, P. Fima, S. Mosińska, *Effect of Ag addition to Zn-12Al alloy on kinetics of growth of intermediate phases on Cu substrate*, Journal of Alloys and Compounds, 582 (2014) 313-322

10.

J. Pstruś, T. Gancarz: *Interfacial Phenomena in Al/Al, Al/Cu, and Cu/Cu Joints Soldered using an Al-Zn Alloy with Ag or Cu Additions*, Journal of Materials Engineering and Performance, (2014), 5, 1614-1624

Research Projects

Projects from Ministry of Science and Higher Education

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Physico-chemical properties of new solders on example of Sn-Zn-In system, Project No. 3T08A

028 26, IMMS PAS, main contractor, 2003-2006.

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Advanced Soldering Materials, Project No. 62/E-88/SN-041, IMMS PAS, contractor, 2006-2007.

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Development to SURDAT database using measurements of viscosity and evaluation of wettability of Pb-free solders on Cu substrate, Project No. 4582/BT08/2007/33, IMMS PAS, contractor, 2007-2010.

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New method for simultaneous measurements of the surface tension, density and viscosity of solders and new alloys for automotive industry, (Project 630/NKanada/2009/0), IMMS PAS, participant, 2009-2013

European Union Projects

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COST, Action 535 - Thermodynamics of Alloyed Aluminides (Thalu), Production and optimization of intermetallic properties, IMMS PAS, contractor, 2004-2007.

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COST, Action 531 - Lead-free solder materials. Influence of Sb additions on surface tension and density of Sn-Sb, Sn-Ag-Sb and Sn-Ag-Cu-Sb. Experiment vs. modeling and influence of In additions on surface tension and density of Sn-In, Sn-Ag-In and \square Sn-Ag-Cu-In. Experiment vs. modeling, IMMS PAS, contractor, 2003-2006.

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ELFNET - European Lead-Free Soldering Network Project Meeting, 6 Frame Programme, IMMS PAS, contractor, 2004-2006.

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Advanced materials and technologies of their production, (Project POIG.01.01.02-00-015/09), IMMS PAS, project leader, 2010-2013

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Adaptation of the research potential of IMMS PAS to the requirements of global standards for comprehensive research in the field of materials science, (Project POIG.02.01.00-12-175/09), IMMS PAS, main contractor, 2011-2014

Experience gained abroad

Institute of Materials and Machine Mechanics , Slovak Academy of Sciences – 2006, (1 month).

Main scientific interest

Physico-chemical properties of liquid and solid, modeling and experiment, intermetallic phases, lead-free solders.