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Position held in PSRS:

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Scientific interests:

Diffraction and Fourier methods in physics.
Structure of nanocrystals and its evolution during physico-chemical processes. Effect of surface chemical reaction on structure of nanocrystals.
Polymorphism of nanocrystals. Computer simulations of structures and processes in atomic scale.

Selected publications:

1. Kaszkur Z., Juszczyk W., Łomot D., „Self diffusion in nanocrystalline alloys”, *Phys.Chem.Chem.Phys.*, (2015), 17, 28250 – 28255.
2. Kaszkur Z., Rzeszotarski P., Juszczyk W., “Powder Diffraction in studies of nanocrystal surfaces - chemisorption on Pt.”, *Journal of Applied Crystallography*, (2014), 47, 2069-2077.
3. Kaszkur Z., Mierzwa B., Juszczyk W., Rzeszotarski P., Łomot D., “Quick low temperature coalescence of Pt nanocrystals on silica exposed to NO- the case of reconstruction driven growth?”, *RSC Adv.*, 4 (28), 14758 – 14765 (2014) .
4. P. Rzeszotarski P., Z. Kaszkur, “Surface reconstruction of Pt nanocrystals interacting with gas atmosphere. Bridging the pressure gap with in situ diffraction”, *Phys.Chem.Chem.Phys.*, 11 (2009) 5416 – 5421.

5. Z. Kaszkur, "Test of applicability of some powder diffraction tools to nanocrystals", *Zeitschrift für Kristallographie*, **23** (2006) 147-154 .
6. Z. Kaszkur, B. Mierzwa, J. Pielaszek, "Ab initio test of the Warren-Averbach analysis on model palladium nanocrystals", *Journal of Applied Crystallography*, **38** (2005) 266–273 .
7. Z. Kaszkur, "Direct observation of chemisorption induced changes in concentration profile in Pd-Au alloy nanosystems via in situ X-ray powder diffraction", [Physical Chemistry Chemical Physics](#), **6** (2004) 193-199.
8. Z. Kaszkur, "Powder Diffraction beyond the Bragg law: study of palladium nanocrystals", *Journal of Applied Crystallography*, **33** (2000) 1262-1270.
9. Z. Kaszkur, "Nanopowder diffraction analysis beyond the Bragg law applied to Palladium", *Journal of Applied Crystallography*, **33** (2000) 87-94.