

INVESTIGATION OF NANOPARTICLES AND THEIR COMPOSITES BY SMALL-ANGLE SCATTERING METHODS

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Small-angle neutron and X-ray scattering (SANS and SAXS) are powerful techniques for obtaining valuable information related to the structure and morphology of nanoparticles and their composites. In this work examples of SANS and SAXS analysis of such systems (nanoparticles, colloids, ferrofluids, and functionalized nanoparticles with substances of biomedical interest) will be presented and discussed.

- [1] M. Balasoiu, S.V. Stolyar, R.S. Iskhakov et al., *Rom. Journ. Phys.* **55**(7–8) 782 (2010)
- [2] M. Balasoiu, L. A. Ischenko, S. V. Stolyar et al., *J. Optoelectron. Adv. Mater.-RC* **4**(12) 2136 (2010)
- [3] M. Balasoiu, O. I. Ivankov, D.V. Soloviov et al., *J. Optoelectron. Adv. Mater.* **17**(7-8) 1114 (2015)
- [4] L. Popescu, D. Buzatu, M. Balasoiu et al, *Rom. Journ. Phys.*, **64** 818 (2019)
- [5] S.N. Lysenko, A.V. Lebedev, S.A. Astaf^oeva et al, *Phys. Scr.* **95** 044007 (2020)
- [6] Maria Balasoiu, Daniela Buzatu, Olexander Ivankov et al., *U.P.B. Sci. Bull., Series A*, **82**(4) 249 (2020)
- [7] C.G. Chilom, B. Zorilă, M. Bacalum et al. *Chemistry and Physics of Lipids* **226** 104851 (2020)
- [8] C.G. Chilom, N. Sandu, M. Balasoiu et al, *International Journal of Biological Macromolecules* **164** 3559 (2020)
- [9] N. Cazacu, C.G. Chilom, S. Iftimie et al, *Nanomaterials* **12** 249 (2022)