Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Biomedical sensors and imaging applications through nanoparticles produced with high energy ball-milling process[1] OLENA ZRIBI, YURIY GARBOVSKIY, ANATOLIY GLUSHCHENKO, University of Colorado at Colorado Springs — High energy ball milling allows: i) one step production of surface functionalized nanoparticles, and ii) tuning the nanoparticle properties by changing milling time. Nanoparticles that are ferroelectric can be used as second harmonic generating probes; semiconductor nanoparticles act as quantum dots. Also, nanoparticles produced by our method can be bio-conjugated with antibodies, peptides, etc. We outline potential biomedical imaging applications of such nanoparticles and show preliminary experimental results of probing living cell cultures (such as yeast and mammalian RBL cells) using these ball-milled nanoparticles colloids.

[1]This work was supported by UCCS-BioFrontiers.

Olena Zribi
University of Colorado at Colorado Springs

Date submitted: 13 Nov 2013 Electronic form version 1.4