



Welcome to the Institute for Scintillation Materials of NAS of Ukraine

P.O. Stadnik
acting director

www.isma.kharkov.ua



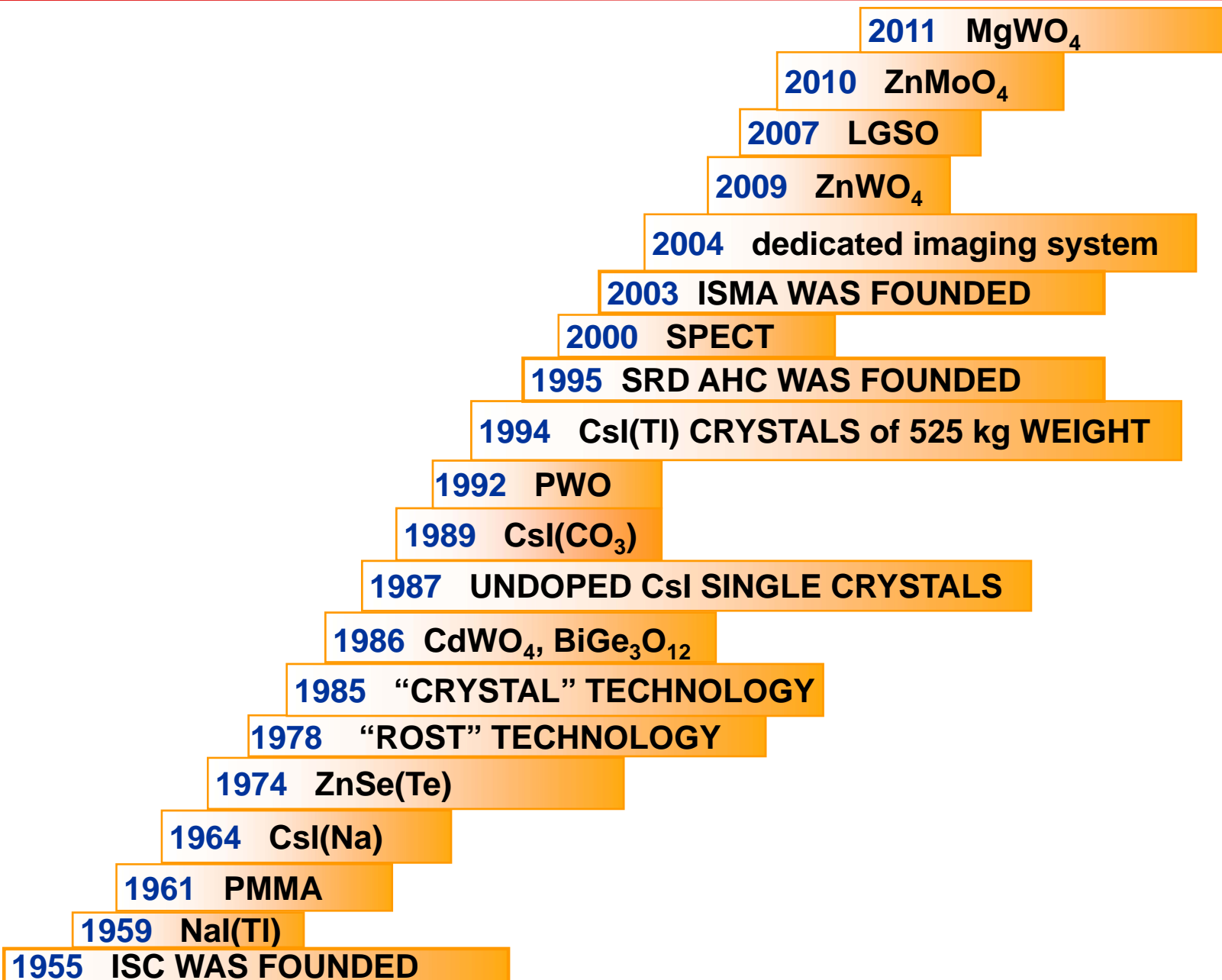
The main scientific directions

Scintillation and luminescent materials science

**Fundamental investigations
on radiation-substance interaction**

**Development of technologies and nanotechnologies
for scintillation detectors production
and making related devices**

History of Scintillators in ISMA



Extra-large alkali halide crystals

Nal:TI, Csl:TI, Csl



500 kg crystal



Crystal treatment



Oxide crystals

PWO, GSO:Ce, LGSO:Ce,
YAG:Ce, GPS:Ce, BGO



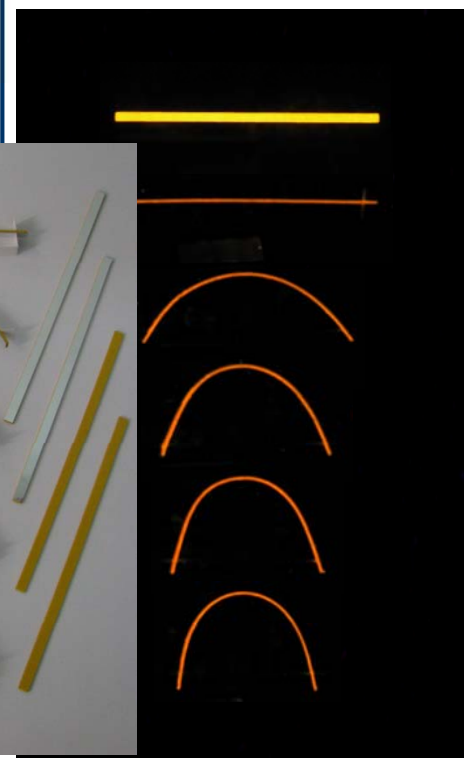
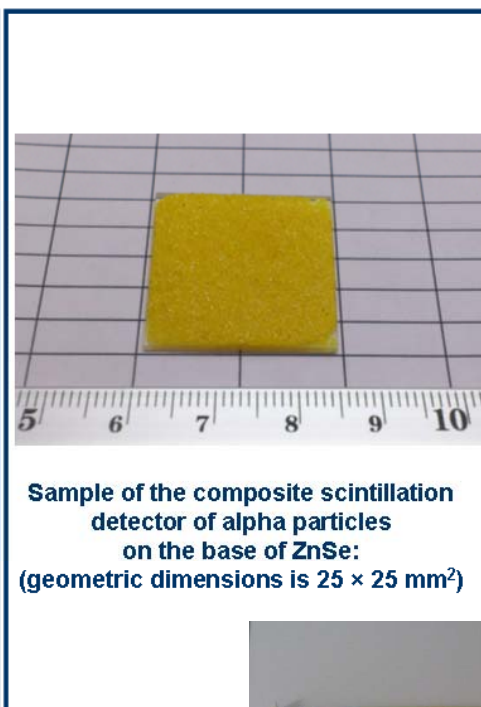
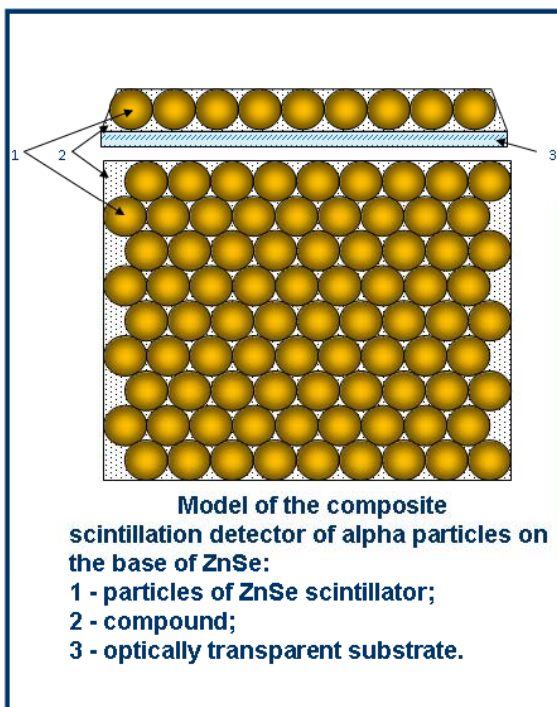
Chalcogenide (semiconductor) crystals



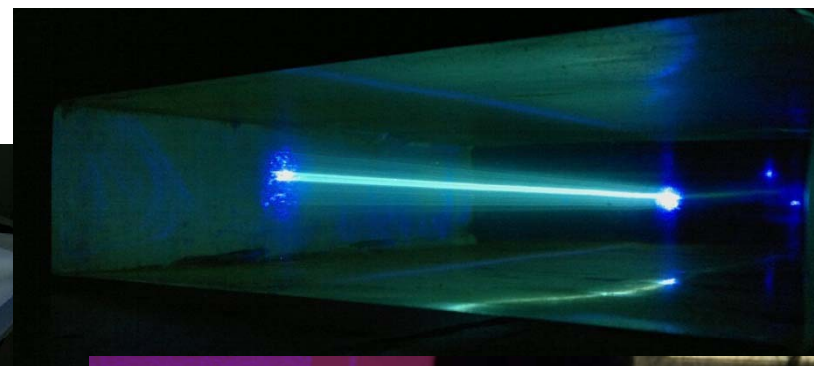
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Composite scintillators



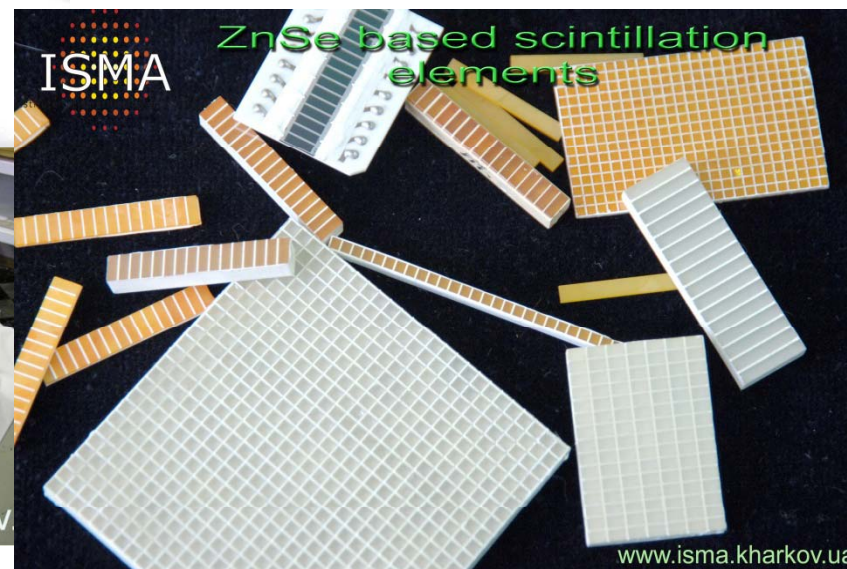
Plastic scintillators



Scintillation detectors

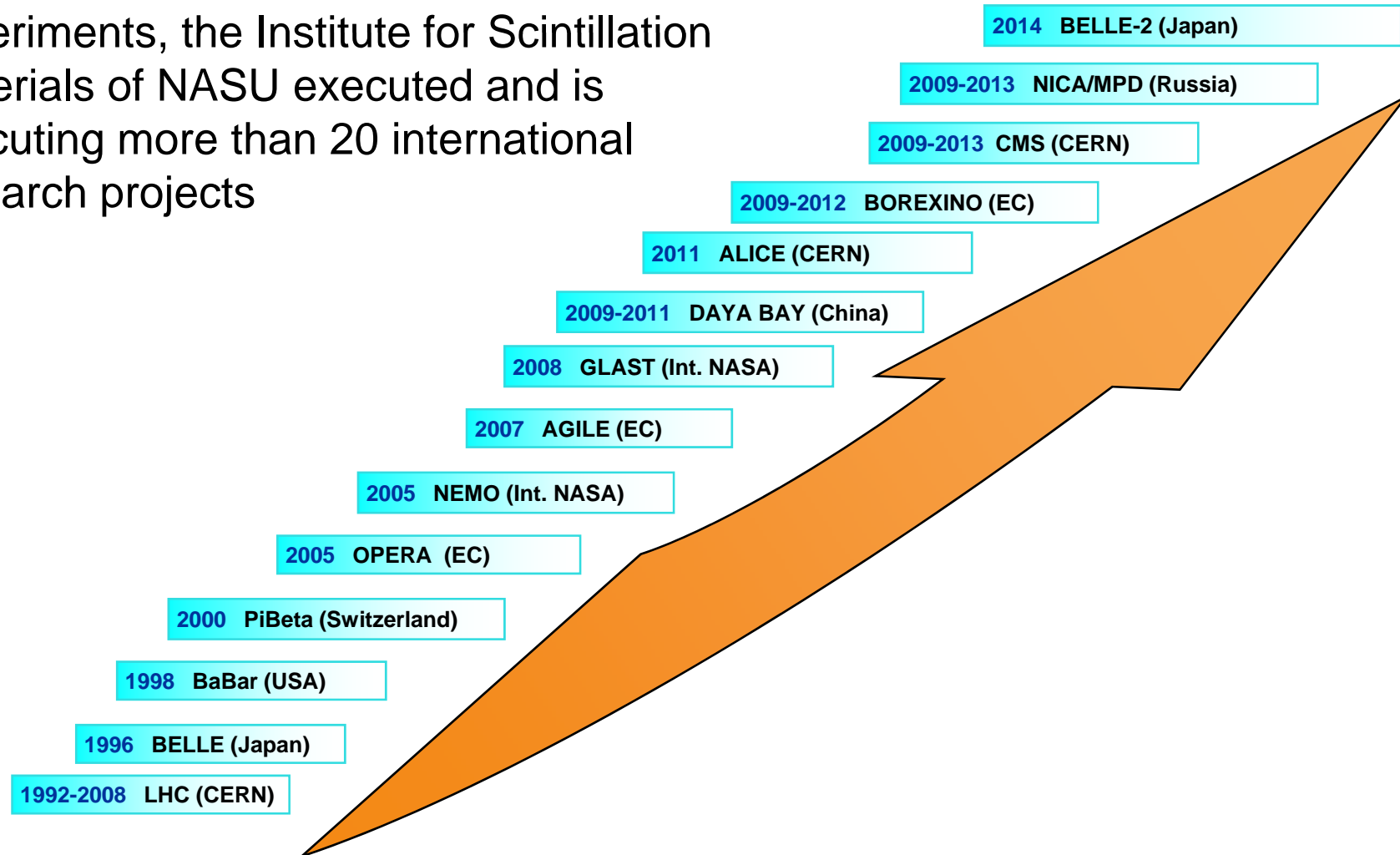


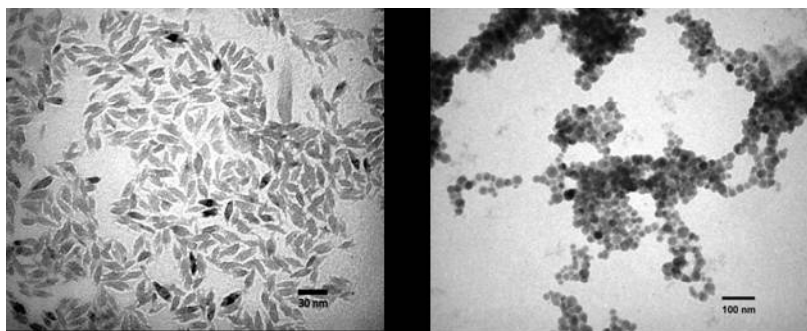
Scintillation detectors



Participation of ISMA in High Energy Physics experiments

Totally within the framework of cooperation in the field of international experiments, the Institute for Scintillation Materials of NASU executed and is executing more than 20 international research projects

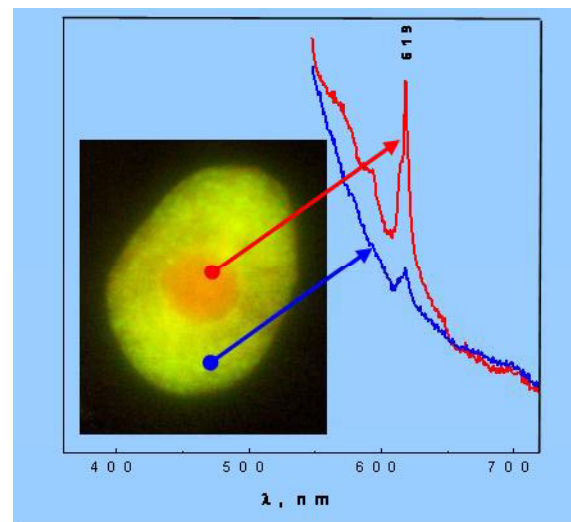




TEM-images of $\text{GdVO}_4:\text{Eu}^{3+}$ nanocrystals

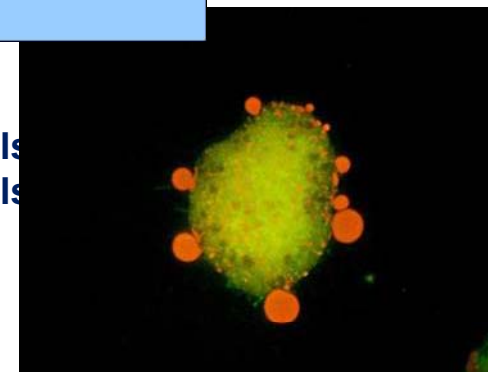


Colloidal solutions of $\text{GdVO}_4:\text{Eu}^{3+}$ nanocrystals (left).
Luminescence of the solution under the UV irradiation (right).



Accumulation
of nanocrystals
in cell nuclei

Controlled nucleus
defragmentation in cells
containing nanocrystals





THANK YOU FOR ATTENTION!

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