

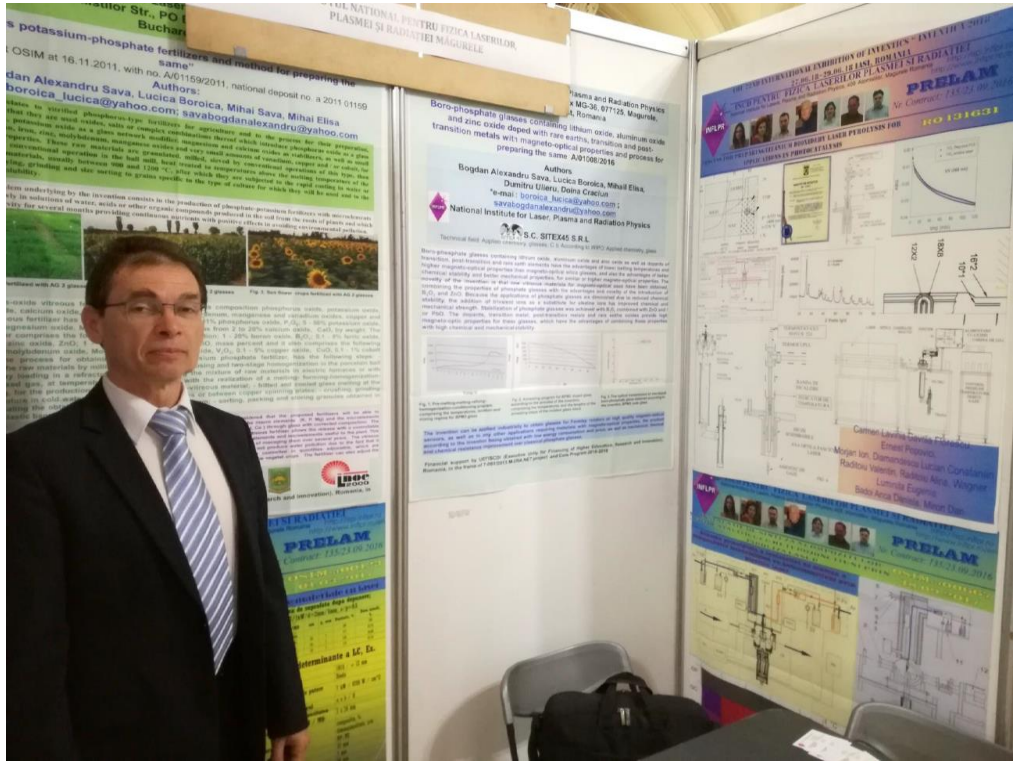
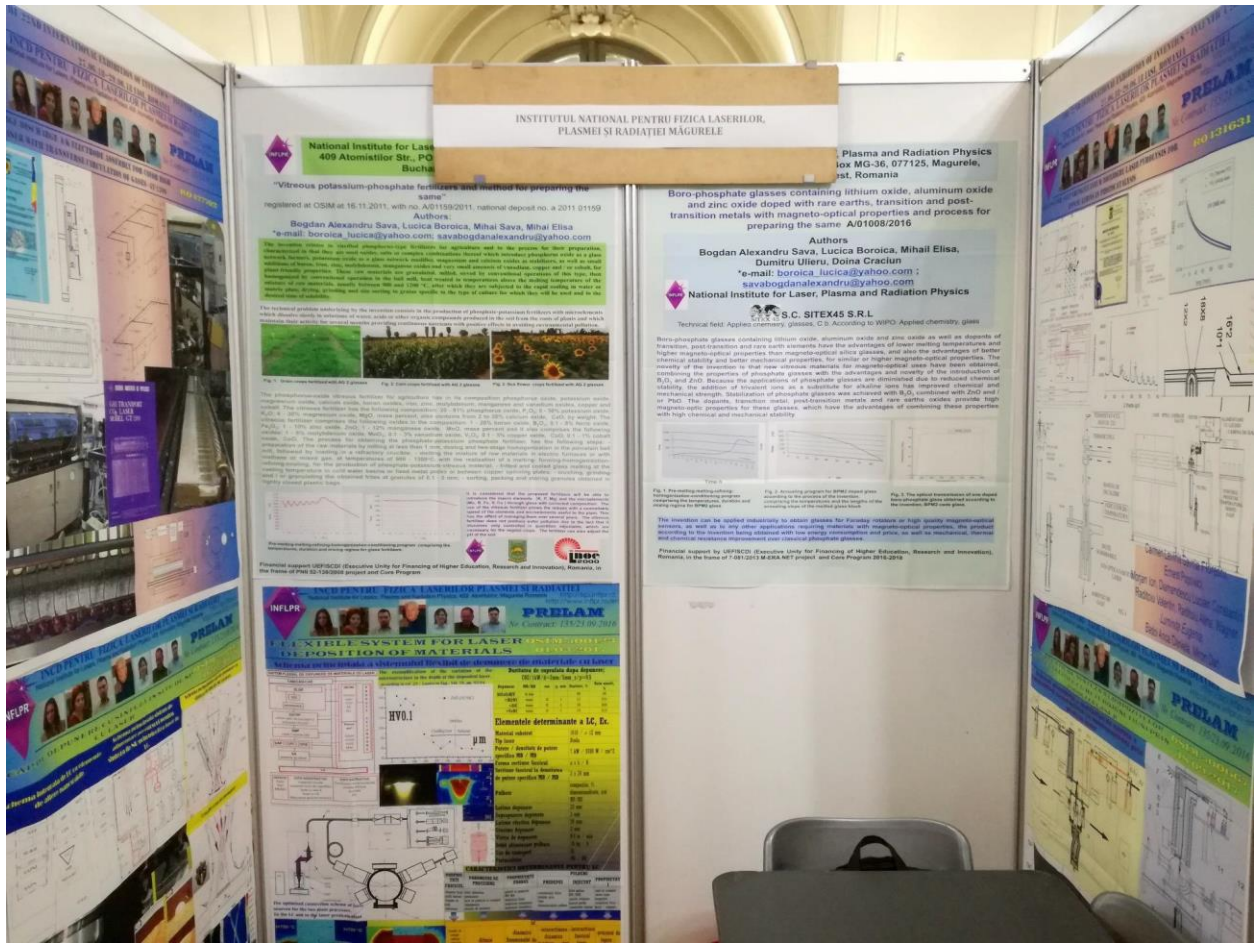




# INVENTICA 2018

THE XED-TH INTERNATIONAL  
EXHIBITION OF RESEARCH,  
INNOVATION AND  
TECHNOLOGICAL TRANSFER  
"INVENTICA 2018"





INSTITUTUL NATIONAL PENTRU FIZICA LASERILOR,  
PLASMEI ŞI RADIAŢIEI MĂGURELE

National Institute for Laser,  
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"Vitreous potassium-phosphate fertilizers and method for preparing the same"  
registered at OSIM at 16.11.2011, with no. A/61159/2011, national deposit no. a 2011 01159

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The present invention relates to the manufacturing process of phosphate fertilizers with micro-nutrients which should be obtained in order to obtain complete products to be used in the field of glass and ceramic materials. The fertilizers are prepared by the method of the present invention, which consists in the preparation of phosphate fertilizers with micro-nutrients which should be obtained in order to obtain complete products to be used in the field of glass and ceramic materials.

The phosphorus content of the fertilizers is high, up to 30% phosphate oxide, which is a very important element for the plants. The fertilizers are prepared by the method of the present invention, which consists in the preparation of phosphate fertilizers with micro-nutrients which should be obtained in order to obtain complete products to be used in the field of glass and ceramic materials.

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Plasma and Radiation Physics  
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Boro-phosphate glasses containing lithium oxide, aluminum oxide and zinc oxide doped with rare earths, transition and post-transition metals with magneto-optical properties and process for preparing the same A/01008/2016

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Boro-phosphate glasses containing lithium oxide, aluminum oxide and zinc oxide as well as dopants of transition, post-transition and rare earths elements have the advantages of lower melting temperatures and higher magneto-optical properties than magneto-optical silica glasses, and also the advantages of better thermal stability and better mechanical properties, for example of higher magneto-optical properties. The synthesis of the glasses is done by the method of the present invention, which consists in the preparation of boro-phosphate glasses with the advantages and novelty of the introduction of B<sub>2</sub>O<sub>3</sub> and ZnO. Because the application of phosphate glasses are diminished due to reduced thermal stability, the addition of lithium ions as a substitute for alkali ions has improved chemical and mechanical strength. Stabilization of phosphate glasses was achieved with ZnO and Li<sub>2</sub>O or PbO. The glasses, boro-phosphate, post-transition metals and rare earths oxides provide high magneto-optical properties for these glasses, which have the advantages of combining these properties with high chemical and mechanical stability.

The invention can be applied industrially to obtain glasses for photonic devices or high quality magneto-optical devices, as well as to any other applications requiring materials with magneto-optical properties and high chemical and mechanical stability.

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