1. Project Proposal Information

Project Proposal Title	High temperature X-ray analysis of nanocrystalline magnetically soft iron alloys and optimization their properties after stage-by-stage heat treatment
Project Proposal Acronym	
Call Identifier	FP7-NMP-2012-CSA-6 FP7-NMP-2012-SME-6 FP7-NMP-2012-LARGE-6 FP7-NMP-2012-SMALL-6
Topic(s)	NMP.2012.4.1-3 Development of advanced magnetic materials without, or with reduced use of, critical raw materials
Funding Scheme	Small or medium-sized collaborative projects
Keywords	Nanocrystalline magnetically soft materials, iron alloys, coatings, stage-by-stage heat treatment, phase structure
Abstract (Max. 2000 words)	Establish the optimal parameters of heat treatment of nanocrystalline soft magnetic iron alloys to achieve high magnetic properties through analysis of structural and phase state using high-temperature X-ray
Project Description (Main Work Packages)	Nanocrystalline soft magnetic materials with properties superior to traditional crystalline materials. Such magnetic properties as coercively, magnetic permeability and magnetization largely depend on the structural state and phase composition of the alloy after heat treatment. Therefore, to achieve optimum properties of these materials to research the process of structural and phase transformations during heat treatment. We also need to develop new modes of non-isothermal heat treatment, which would be due to changes in the duration and temperature at certain stages of the process led to the formation of structural and phase components that will ensure minimum coercive field and maximum values of permeability and magnetization that can be applied to this alloy.
Current Consortium (Partners, Organisation Types)	No

Deadline for Responses	November 2011

2. Profile of the Partners Sought

Organisation Type	Research or Educational
Required Skills and Expertise	High-energy treatment methods, novel materials, nanomaterial's
Role in the project	Cooperation in investigations
Other Requirements	

3. Project Proposer Information

Name of the Organisation	National Technical University of Ukraine "Kiev Polytechnic Institute"
Organisation Type	Education
Country	Ukraine
Fields of Activity	Coatings, high-energy treatment methods, X-ray analysis
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Previous FP Projects Participated	No