ADVANCED POLYMERIC MATERIALS FOR ENERGY AND OTHER FIELDS SUPPORTED BY RADIATION TECHNOLOGIES

Training at the Institute of Nuclear Chemistry and Technology

For many years, in technologically advanced countries is observed the rapid development of radiation techniques in plastics processing, mainly to improve the quality of manufactured products (improving mechanical and thermal properties, chemical resistance, extending product life, etc.). At present in Poland, high energy electron beams find application only in the processes of manufacturing shape memory products (heat shrink tubes and tapes), initial vulcanization of car tires and cross-linking of packaging films for contact with foodstuffs. However, the need to use radiation methods in other branches of industry, especially those related to energy, is emerging application. Therefore, we would like to interest you in the use of radiation techniques and present the expected benefits associated with the use of this type of technology.

Training devoted to phenomena initiated by an electron beam in polymers, as well as the most important industrial applications of radiation techniques will be organized on October 18, 2018. The training is addressed to representatives of the plastics industry and scientific communities.

Training topics

Sources of ionizing radiation:

- Electron accelerators, gamma sources, X-rays sources. Presentation of ionizing radiation sources and a pilot installations for radiation cross-linking of electric cables and wires

Radiation crosslinking:

- Radiation crosslinking of cables and electric wires
- Production of polyolefin foams
- Manufacturing heat shrink tubes and tapes
- Radiation crosslinking of pipes for transporting hot water
- Packaging materials
- Radiation crosslinking of medical devices
- The use of radiation techniques to vulcanize tires and seals
- Modification of composite materials
- Radiation processes in polymers used in medicine
- Radiation consolidation
- Radiation grafting

Summary:

- Current possibility of applying radiation treatment in Poland and its perspectives
- http://www.ichtj.waw.pl/ichtj/publ/monogr/m2017_2draft.htm
- Economical aspects of the use of radiation techniques
- Possibilities of scientific cooperation in the field of radiation modification of polymeric materials

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