

Irradiation Effects on Concrete Structures

Michaela is a PhD student in the Faculty of Civil Engineering of Czech Technical University in Prague. She got her Bachelor's and Master's in building specialized structures made of concrete. Her research is focused on effect of irradiation on concrete structures in nuclear power plants.



She was awarded with three-months training IAEA Fellowship in Oak Ridge National Laboratory, Tennessee in the United States. She joined the research group of Department of Fusion & Materials for Nuclear Systems Division. This training was facilitated by Dr. Jeremy T. Busby and her mentors were Yann Le Pape and Alain Giorla. The training was focused on understanding the effect of neutron radiation and gamma radiation on composite material such as concrete and comprehend its impact on each constituent – cement paste and aggregate.

This knowledge will help to evaluate the condition of shielding structures in nuclear power plants which is desired while lifetime of these structures needs extending. The gained knowledge might be used in current nuclear power plants in the Czech Republic or for designing of new power plants.