Radiochemistry for underground physics

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Currently, one of the main tools for new physics searching is the experiments at the underground laboratories, where the background is suppressed. When cosmic rays are suppressed, the main source of background is radioactive contamination of materials, facilities and measured samples. Modern level of underground experiments requires transition from mBq/kg to μBq/kg of impurities levels. Achieving such levels from a preparative and analytical point of view is a complex task that requires the use of advanced achievements in radiochemistry, analytics (ICP-MS, neutron activation analysis), and experience in gamma spectrometry. In the talk the cutting-edge approaches applied at DLNP JINR for achievement of requested levels of radiopurity by radiochemical, analytical and other methods will be reported.