

# **Joint seminar of the NPI of the CAS**

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**Mgr. Vladimír Strunga, from OJS**

## **Radiation effects in organic phases of uranium-bearing mineralizations**

The work deals with two types of fossil organic matter that were exposed to the radiation of natural uranium decay series, especially bitumen from the Permian sediments of the Krkonoše Basin and amber (resinite) from the uranium-bearing assemblages of the Stráž area of the Czech Cretaceous Basin. Several advanced analytical and experimental methods were used, with the two main lines of research using techniques based on nuclear reactions of neutrons (research nuclear reactor LVR-15) and particle accelerators (Tandetron and Microtron MT-25). The computational methods of modeling particle ranges and energy transfer to matter were used for better understanding and visualizations. Electron microscopy and microanalysis (SEM/EDX) were used as an important complementary imaging and analytical tool.