

## Laboratory of environmental scanning electron microscopy

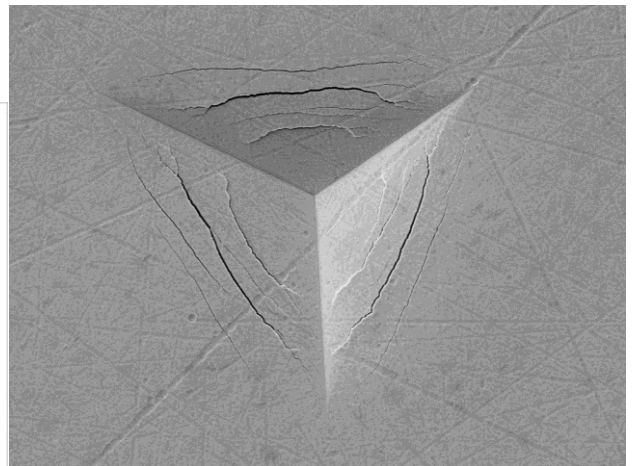
(the investigation of microstructure, topography and chemical composition of modern composite and nanocomposite materials)

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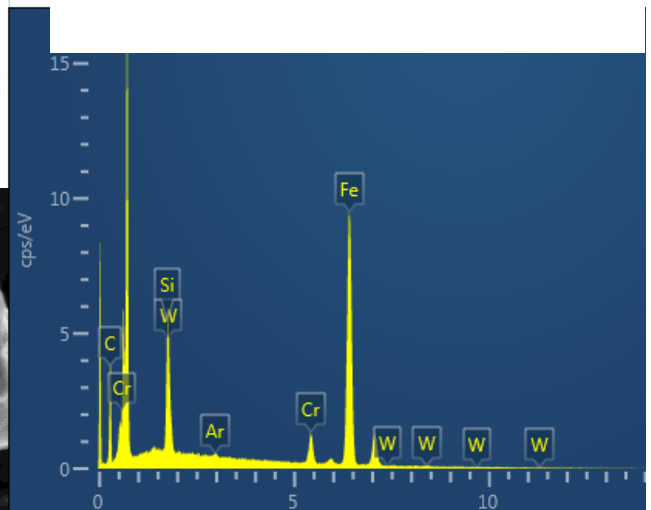
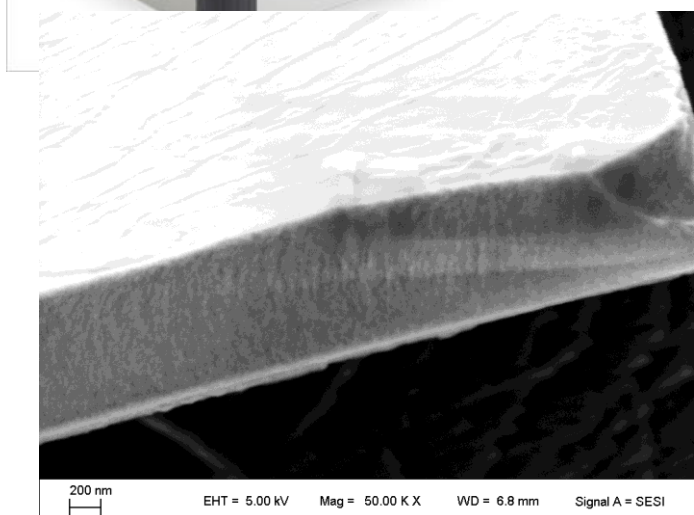
The laboratory is equipped with the conventional scanning electron microscope with W filament with the extended range of working pressure and integrated analytical methods for the study of microstructure, topography and chemical composition of a wide range of materials starting from bulk metals up to modern composite, nanocomposite and biological materials and thin coatings with the extended possibilities for the analysis of light elements. materiálov, od masívnych kovov až po moderné kompozitné, nanokompozitné a biologické materiály a povlaky s rozšírenými možnosťami analýzy ľahkých prvkov.

1. **cSEM EVO MA15** with EDX/WDX, environmental scanning electron microscope (Carl Zeiss, Nemecko) with the integrated analytical methods EDX a WDX (Oxford Instruments, United Kingdom)

- W filament
- SE and BSE detectors adopted for operation at higher pressure
- The range of the working pressure in the chamber - up to 400 Pa
- 5-axis motorized table
- Large chamber
- Oil free vacuum



Details of the damage of a thin coating on a steel substrate after nanoindentation



Structure of a thin nanocomposite W-C coating on a steel substrate and its EDX spectrum.