

## MICROMINERALOGY – THE MINERALOGY OF XXI CENTURY

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The micromineralogy – a new scientific direction of modern mineralogy appeared in according with discovering the “size-property” dependence in natural mineral-geochemistry systems. This dependence is good learned in small particles physics (thin metal films, powders, etc.). Small particles are observed as special aggregate status of a matter with abnormal properties. Abnormality is connected with “size effects” – the changing of physical, thermodynamic and other properties of a matter as a result of sharp increasing the role of specific surface energy with sizes of individuals 50 – 150 mkm according to habitus and crystal structure. The main objects of micromineralogy are: micromineral – a kind of mineral type which properties are defined by small ( 100 mkm) sizes of selection; microparagenesys – an association of microminerals which appears during the limited in space and time process defined by physics and chemistry laws and size effects. The micromineralogy has the special value in researching the thin-disperse ores which industry costs are depended on elements with concentration 0.0000n – 0.00n % (Au, Te, Se and others). In such ores the capillary mineral-geochemic systems have been developed having formed unusual, sometimes forbidden, microparagenesyses of microminerals which do not exist in massive phases. The micromineralogy development is connected to applying the high-precise local methods of matter researching (electro-sound microanalysis and others). In XXI century such methods of researches must be as usual as optical microscope today.