

Application of Nuclear Microprobe Analytical Technique in Chinese Ancient Porcelain

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Chinese porcelain history from original ones has lasted about three years. There are many ancient kilns from the south to the north of China. Some of the kilns had been firing continually porcelain for one thousand years more. A lot of porcelain wares were produced in different kilns or different period of history in a kiln site, which with similar shape, glaze color and seeing effect. It is difficult to distinguish them by traditional methods. Therefore, the provenance and age of the porcelain wares, which excavated from ancient city sites and graves, is not easy to be defined.

The material of different chemical composition and various processing technique was used in kilns and dynasties. Major and trace elements in the body and glaze of porcelain are the very important information to distinguish the provenance and age for ancient Chinese porcelain. Moreover, it is very useful to study the coloring principle, firing technology and etc for special kinds of porcelain. Nuclear microprobe technique is very suitable to analyze the chemical composition in the body and glaze of porcelain.

These samples of Tang Sancai, White glaze porcelain, blue and white porcelain and copying Jun and Ru porcelain were analyzed by Scanning Proton Microscope (SPM) in Ruđer Bošković Institute of Croatia. This presentation is going to show a series of ancient Chinese porcelain samples and the application of nuclear microscope analytical technique. Each of the discussed samples has its own history and must be studied and understood in scientific point of view. In the paper, the nuclear microscope analytical method for porcelain is going to be evaluated and discussed.