





Elemental imaging of Skin Tumors

 Sample
Skin tumors

 Spatial resolution
30 μm x 30 μm

 Elements of interest
Ca, C, K, Mg, Na

 Measurement rate
50 Hz

 Mode of analysis
Elemental imaging

The skin is the largest organ of the human body that serves as protection from external influences. Many tumors can form on the skin. Skin malignancies are one of the most common cancers in general but with a very low mortality rate. Therefore, frequent prevention is crucial.

According to the researchers, cancer-infected tissues change the shape of the cells and their chemical composition. These changes can be observed using LIBS, where imaging of biotic elements provides information about soft tissue elements distribution.

The usage could be the provision of a complementary way, for example, for pre-screening before the use of classical and existing methods, which are more sensitive and accurate but last significantly longer and are much more expensive. In the future, it could offer a new perspective on the diagnosis of soft tissue cancer.

The result of the skin tumors measurements is an elemental representation of the biogenic elements on pixel maps. These maps are used after comparing the results with histological findings of bark cancers.

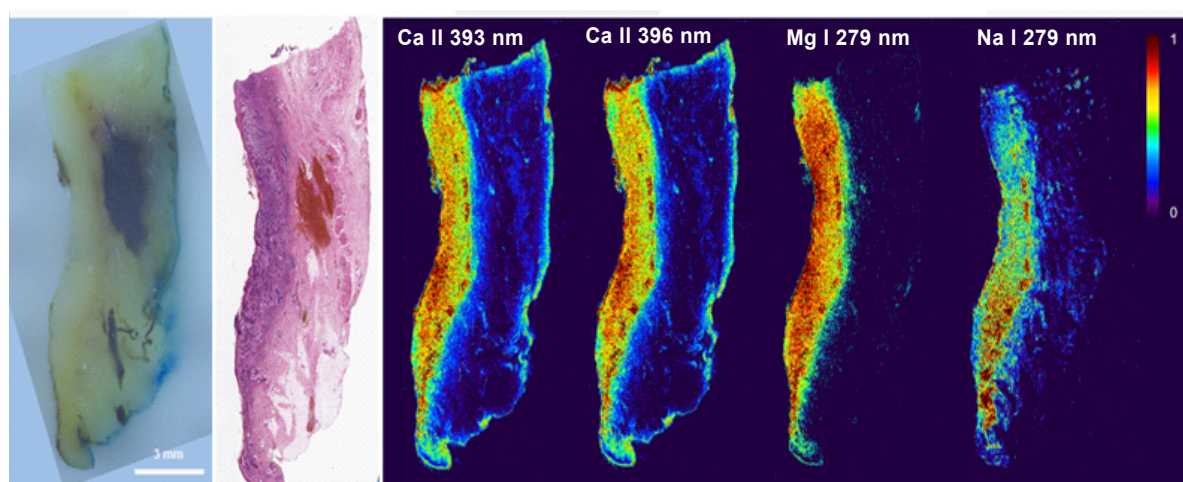


Fig.1. LIBS intensity maps for malignant melanoma