## A new technology for anticounterfeiting of art works

Luca Gregoratti<sup>1</sup>, Annalisa Boscaino<sup>1</sup>, Matteo Dalmiglio<sup>1</sup>, Marco Peloi<sup>1</sup>, Antonella Crisma<sup>2</sup>, Daniele Pasini<sup>2</sup>, Luisa Zubelli Quaia<sup>2</sup>

<sup>1</sup> Sincrotrone Trieste SCpA, SS14-Km163.5 in Area Science Park, 34012 Trieste, Italia <sup>2</sup> Soprintendenza per i Beni Archeologici del Friuli Venezia Giulia - Trieste, Italia

We developed an innovative system of marking art works with invisible codes. These can be applied either directly to the object or to any tag that can be inserted in the art work.









The word ELETTRA at nanometric size

Different level of security can be adopted by making the codes wide down to the nanometric size by using synchrotron radiation. Roman Age coin protected with invisible code exposed to sun light (upper image) and UV light (middle image) In the lower image it is highlited the code observed in UV light.

The technology has been developed at the Elettra Synchrotron Radiation Center, Trieste, Italy in collaboration with the national institutions devoted to the cultural heritage conservations.

It has been tested in the second half of 2007 at two international art exhibitions located in Italy and Slovenia.

The Elettra Laboratory in Trieste