Magneto-optical hysteresigraph MOHyster Regula 7708

MOHyster Regula 7708 is specifically designed to be used in applied research, particularly for the development of new and improvement of currently existing document security features with magnetic properties. The solution is also perfect for monitoring the quality of security features during the production of banknotes, securities and blanks. MOHyster can be used for extensive research on magnetic printing elements performed by forensic experts.

Regula 7708 is constructed as a single unit for desktop use. It is used with a PC and fully controlled with the help of CADR software (supplied with a unit). The device is reliable, convenient and easy-to-use.

Functionality

The key feature of this Regula solution is the possibility to measure and evaluate magnetic hysteresis characteristics of security features in documents and banknote under different magnetization conditions, namely:

- saturation field intensity;
- saturation magnetic induction;
- residual magnetic induction;
- coercive force;
- hysteresis loss.

Based on coercive force measurements, the device allows classifying magnetic security features in documents and banknotes by the type of ferromagnetic materials they contain (i.e. Soft, SemiHard, LoCo Hard / HiCo Hard).

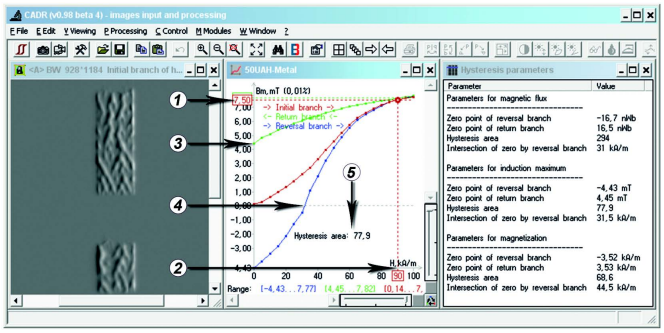
Hysterisigraph performs the function of magnetic field tomography at various distances from an examined object surface. This function allows studying 3D distribution of the magnetic field and its integral assessment. The device with such functionality has no analogues in the world.

Application

- Forensic departments
- Border control/immigration services
- Customs authorities
- Court expertise
- Law-enforcement agencies
- Financial institutions
- Other agencies and organizations authorized to check documents and banknotes

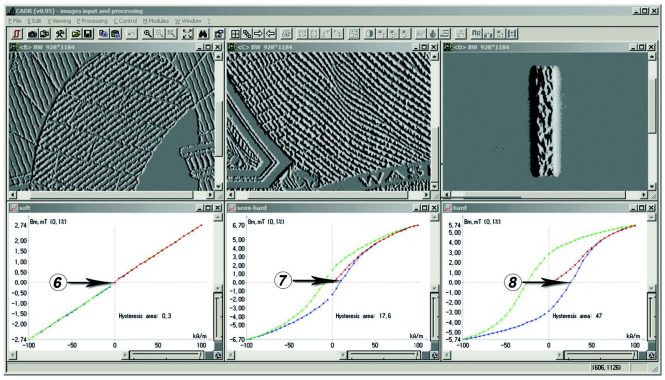
Delivery Set

- CADR software and drivers for the device control
- Case
- Optionally: PC



Evaluation of hysteresis parameters:

(1) B_s — saturation magnetic induction
(2) H_s — saturation field intensity
(3) B_r — residual magnetic induction
(4) H_c — coercive force
(5) $W = \int BdH$ — hysteresis loss



Classification of magnetic protection samples by the type of magnetic material based on coercive force (H_c) measurements:

(6) Soft $H_c \approx 0$ kA/m
(7) SemiHard $H_c = 12.1$ kA/m
(8) LoCo Hard $H_c = 24.4$ kA/m