

The SABAT project (Stoichiometry Analysis By Activation Techniques) @ the Jagiellonian University in Kraków

- ❖ A vast amount of sunken chemical weapons and fuel is scattered across the **Baltic Sea (and not only)**.
- ❖ Methods used to detect them are expensive and chemically blind.
- ❖ **Solution: Neutron Activation Techniques:**
Neutrons excite the atomic nuclei that make up the objects being examined. Measuring the energy of the resulting γ -rays allows for determining the stoichiometry of the object.

The SABAT sensor:

- ❖ Position sensitive γ spectrometer (LaBr_3Ce scintillator)
- ❖ Compact DT neutron generator
- ❖ Guides filled with air to minimize the neutron and γ quanta attenuation in water
- ❖ Changeable position, length and orientation of guides
- ❖ Possibly: tomographical picture of the chemical composition
- ❖ Successfully tested in simulated conditions (laboratory)
- ❖ **Possible contribution:** a prototype of a technology for non-invasive inspection of objects/wrecks
- ❖ Critical infrastructure protection

