Abstract for Poster "COBRA - A new approach to double beta decay using CdTe"

Neutrinoless double beta decay is a unique process to reveal the fundamental character of neutrinos and to probe a possible non-vanishing mass. However, several mechanisms are proposed to describe neutrinoless double beta decay and additional important information can be obtained by investigating all variants of $\beta^+\beta^+$-decays.
The COBRA-project plans to use a large amount of CdTe semiconductor detectors, taking advantage of the good energy resolution and "source equal to detector" principle. In total seven double beta isotopes can be investigated to perform a systematic study of Cd and Te isotopes. In case of using CdZnTe detectors two more isotopes can be explored. The physics potential of the experiment, status of the project and first results obtained with a test-setup will be presented.