

## **Abstract**

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“Thalamic substructures and the Nucl. subthalamicus on contrast-optimized, high-resolution parameter maps at 3 Tesla”

After establishing the methods a group of 20 healthy volunteers was systematically examined at 3 Tesla. With optimized parameter maps our group was able to reliably identify a large number of thalamic nuclei on these maps.

Additionally we were able to reliably identify the Nucleus subthalamicus with its borders and compared our results with the established stereotactic position for DBS of Parkinson's Disease. As expected based on the clinical experience with the placement of DBS electrodes we found a significant deviation between the individual centre of the N. subthalamicus and its atlas position.

With these isotropic maps we were able to provide stereotactically usable imaging for our clinical co-workers that was compatible with their commercial stereotactic system.