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Brain tumor segmentation with Vander Lugt correlator based active contour

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Highlights

- We present a fast and fully automatic brain tumor detection and segmentation system based on a numerical simulation of the optical Vander Lugt correlator with an active contour model.
- We considered the design of a specific filter and investigated its impact on the detection of all brain tumor types.
- We considered several active contour models and investigated their impact on the segmentation task.
- We use two benchmark databases: BRATS 2012 and 2013 to test the proposed system.
- To contextualize the results of our proposed method, we investigate several evaluation criteria that are adapted to the tumorous tissue segmentation in the state-of-the-art.

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