Reviewer's report

Title: Improved Operator Agreement and Efficiency Using the Minimum Area Contour Change Method for Delineation of Hyper-intense Multiple Sclerosis Lesions on FLAIR MRI

Version: 1 Date: 21 May 2013

Reviewer: Sushmita Datta

Reviewer's report:

Major Compulsory Revisions:
None

Minor Essential Revisions
None

Discretionary Revisions
1. In Introduction, fifth paragraph, “For instance, a contour curve cannot be chosen as the final ROI if it: 1) meets the edge of the bounding box, 2) increases or decreases the ROI size from the original by more than a user specified ratio, or 3) does not intersect with the original ROI.” Please clarify the bounding box, was it based on single rater’s ROI or ROIs outlined by both the raters. What is a user specified ratio? Is it fixed or not? Provide details.

2. Please explain the rationale for using the criterion for the MACC ROI to be greater than 1/3 and less than three times the input ROI. Upper bound may not be applicable for very large lesions.

3. Does rater need to draw ROI on one slice for any lesion or the procedure requires repetitions of ROI drawings on all slices covering the particular lesion?

4. Provide average time spent by two raters in obtaining ROIs.

5. In this paper, the proposed technique was implemented successfully in delineating lesions in follow-up study using the fact that lesions stay at the same location but only vary in size and shape. This may not be entirely true. Provide discussion on resolving and new lesions in follow-up studies with respect to the proposed technique.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests.