Tutorial: MSLesionSimulator

1. A simple Multiple Sclerosis (MS) brain lesion load on a structural T1 weighted MRI image.
Dataset

In this tutorial you will need:

1. A T1 weighted image from a healthy subject. The sample used in this tutorial come from the MNI152 template image.
   a. Any T1w image can be used, e.g. publicly provided MRI images such as in the IXI dataset.

Although the MSLesionSimulator toolkit accepts many other imaging modalities (e.g. T2, DTI-FA, or Proton Density MRI images), the minimum required data to simulate MS brain lesion is the T1w image.
Parameters:

1. Load and select the T1w image
Parameters:

1. Load and select the T1w image
2. Select the lesion load
Parameters:

1. Load and select the T1w image
2. Select the lesion load
3. Press Apply button to run the simulation process
Results

With this brain lesion simulation procedure, the input T1w image will be changed to present a similar brain tissue pattern found in MS patients. In this case, a set of hypointense lesions must be found in the brain white matter, such as in the following examples.
Original image without MS brain lesions.

Simulated image with hypointense brain lesions.
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