

Statistical and Computational Inverse Problems with Applications

Appendix 1: EIT, examples of forward solutions

Aku Seppänen

Inverse Problems Group
Department of Applied Physics
University of Eastern Finland
Kuopio, Finland

Jyväskylä Summer School
August 11-13, 2014

Contents

Example 1

Example 2

Example 3

Example 4: Two different targets

More examples

Example 1

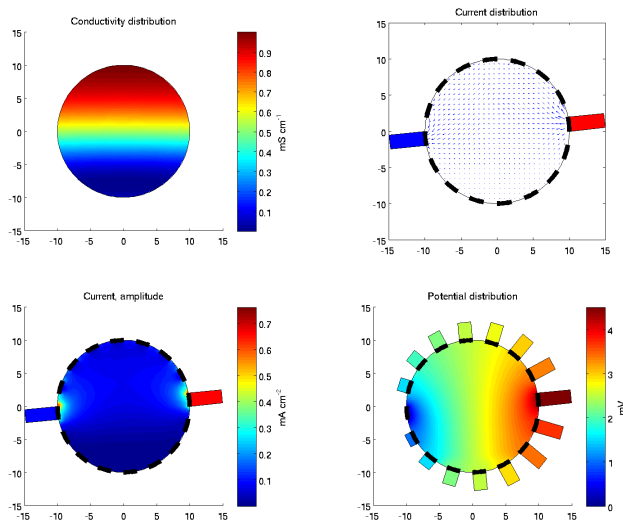


Figure: Current injection 1; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 1

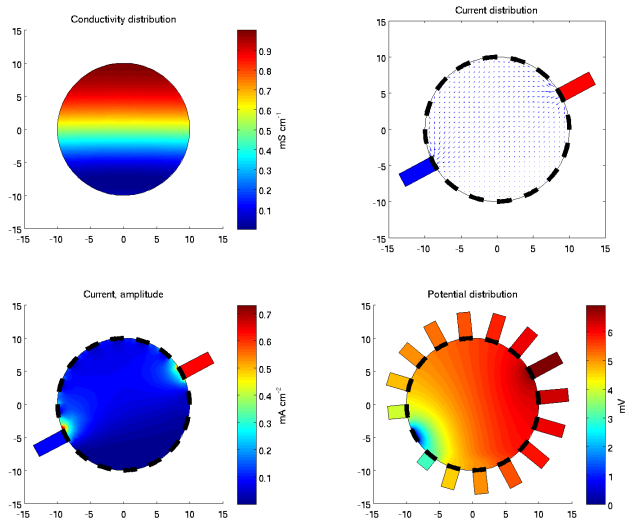


Figure: Current injection 2; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 1

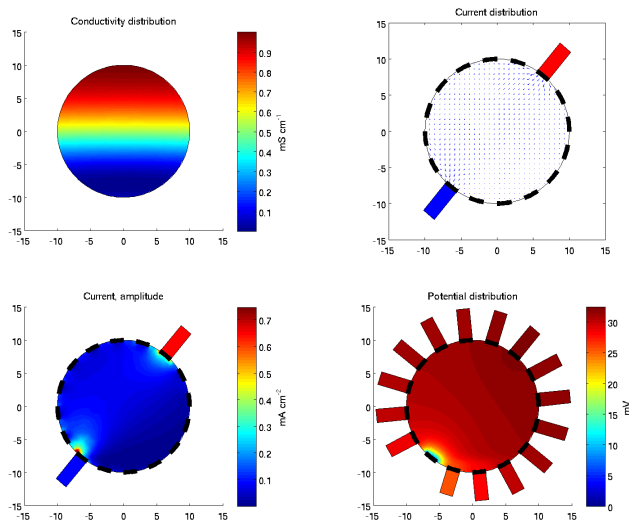


Figure: Current injection 3; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 1

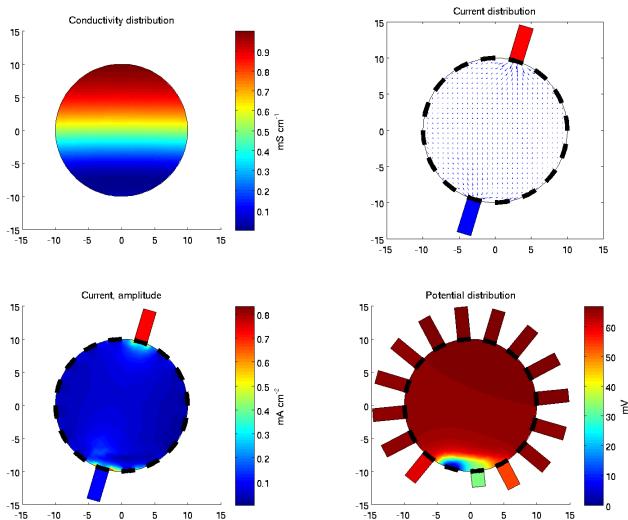


Figure: Current injection 4; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 1

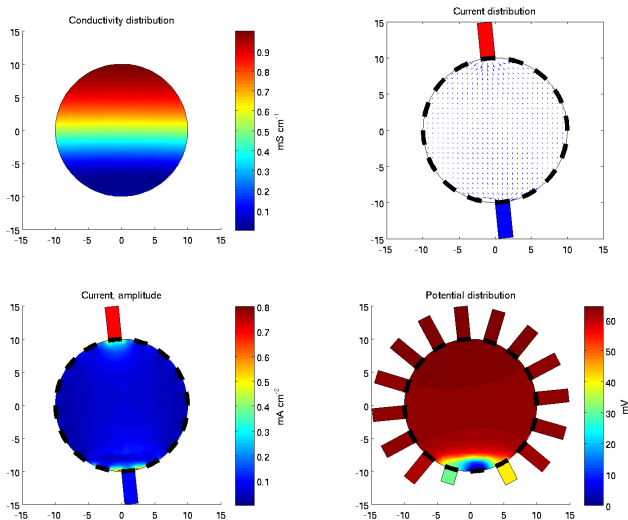


Figure: Current injection 5; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 1

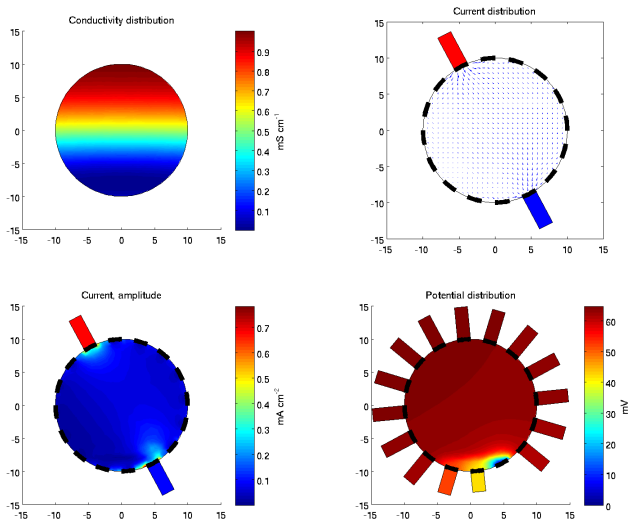


Figure: Current injection 6; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 1

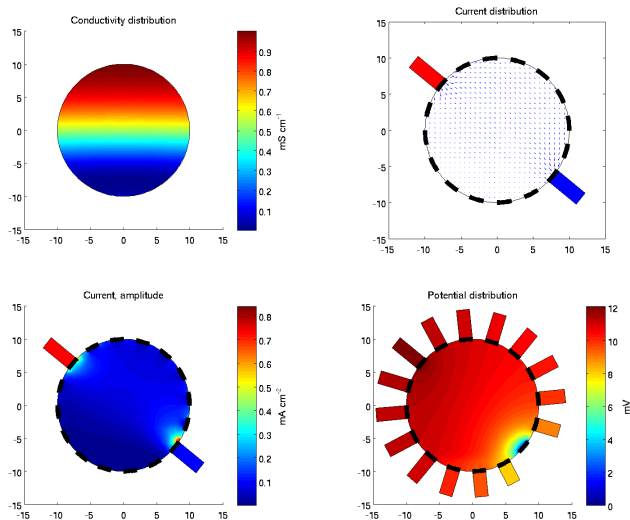


Figure: Current injection 7; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 1

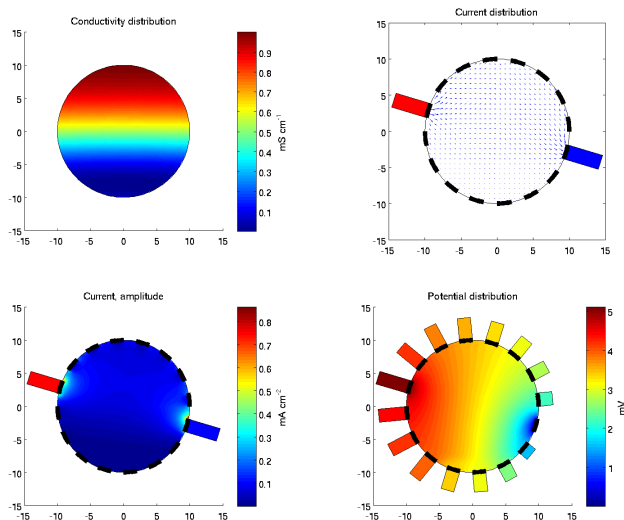


Figure: Current injection 8; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 2

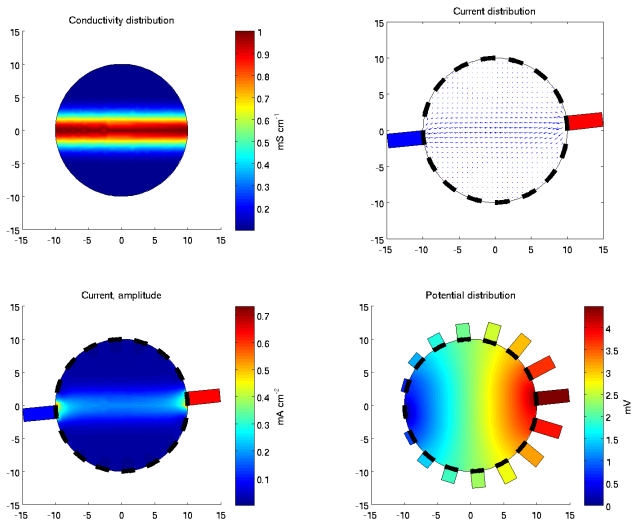


Figure: Current injection 1; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 2

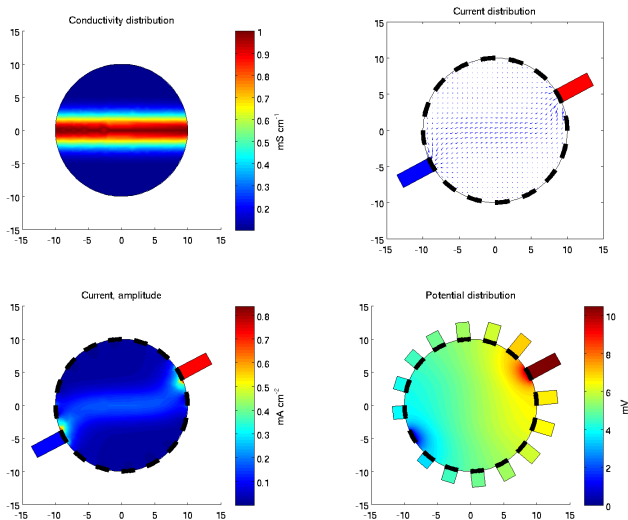


Figure: Current injection 2; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 2

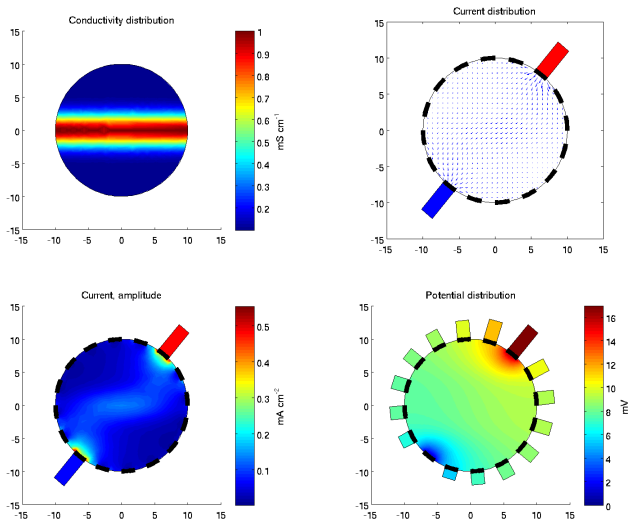


Figure: Current injection 3; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 2

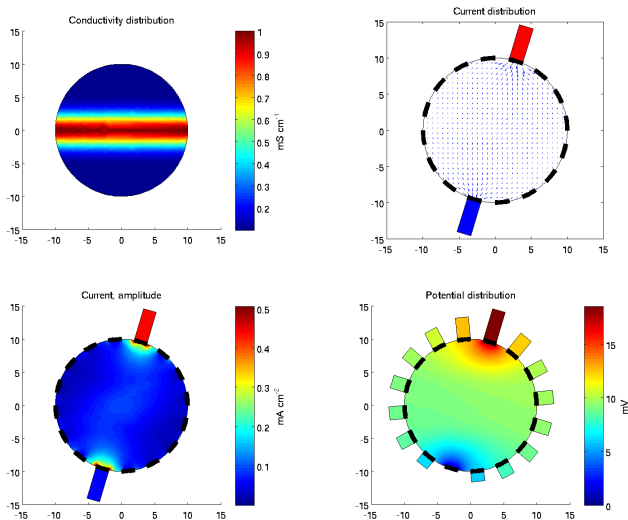


Figure: Current injection 4; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 2

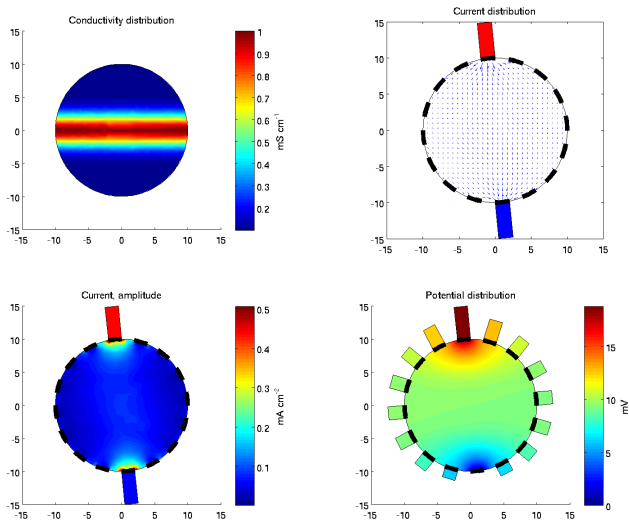


Figure: Current injection 5; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 2

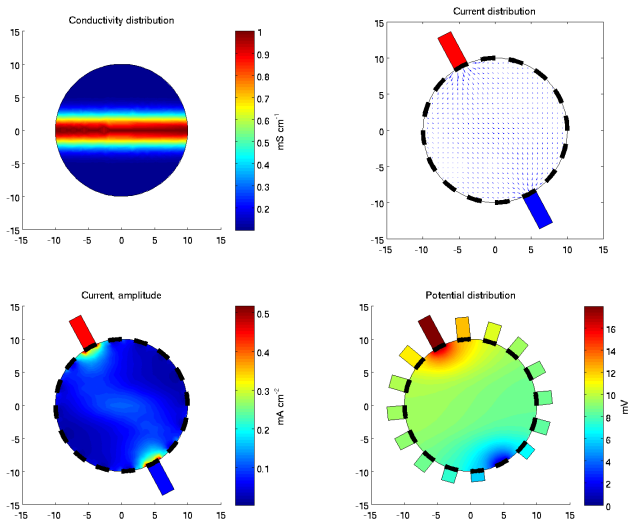


Figure: Current injection 6; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 2

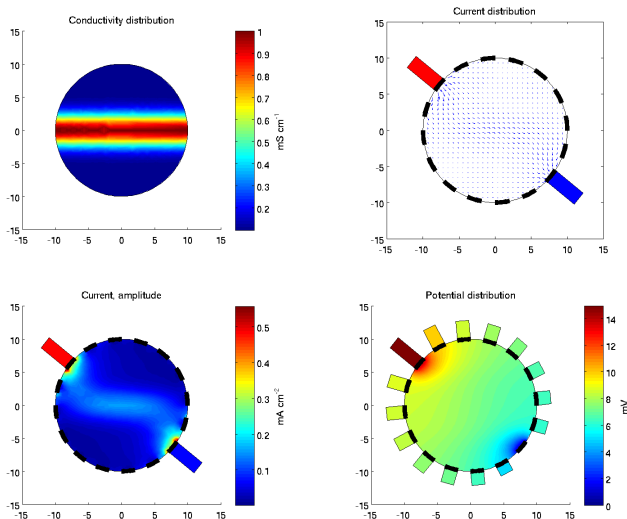


Figure: Current injection 7; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 2

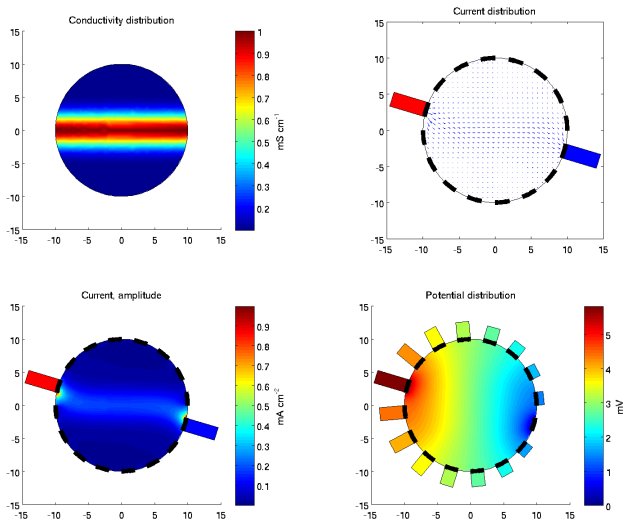


Figure: Current injection 8; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 3

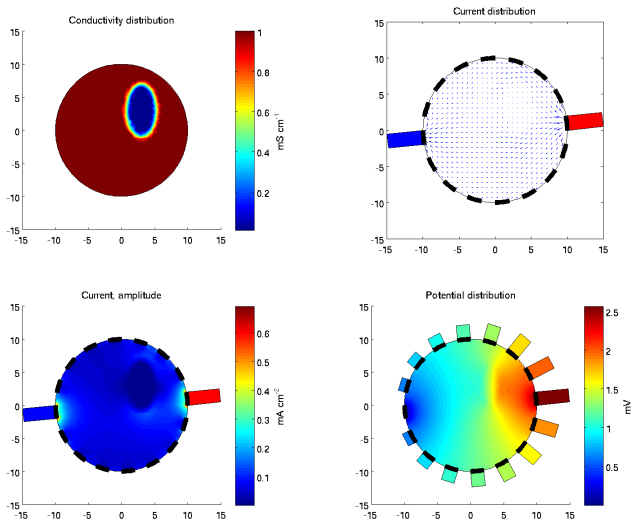


Figure: Current injection 1; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 3

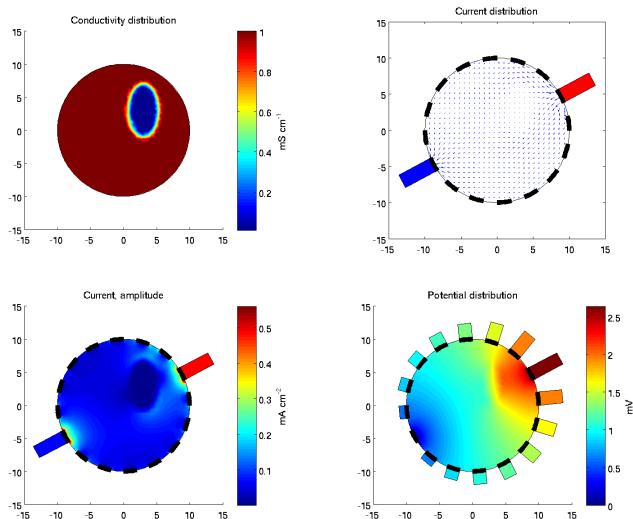


Figure: Current injection 2; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 3

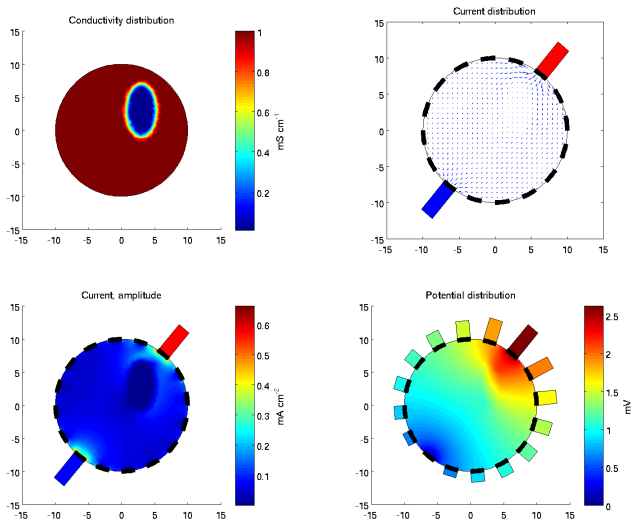


Figure: Current injection 3; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 3

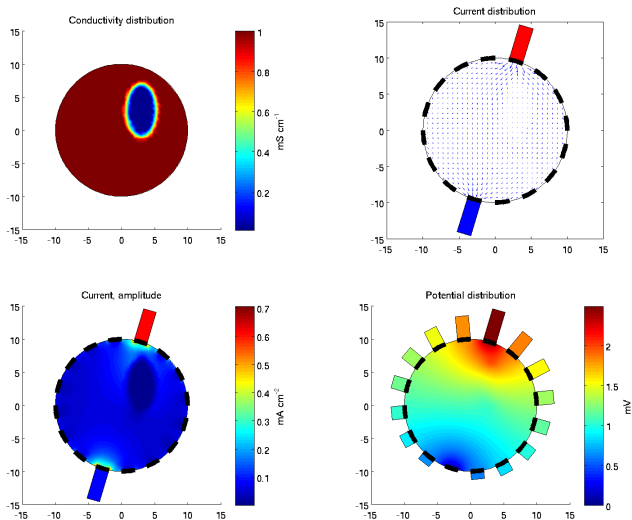


Figure: Current injection 4; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 3

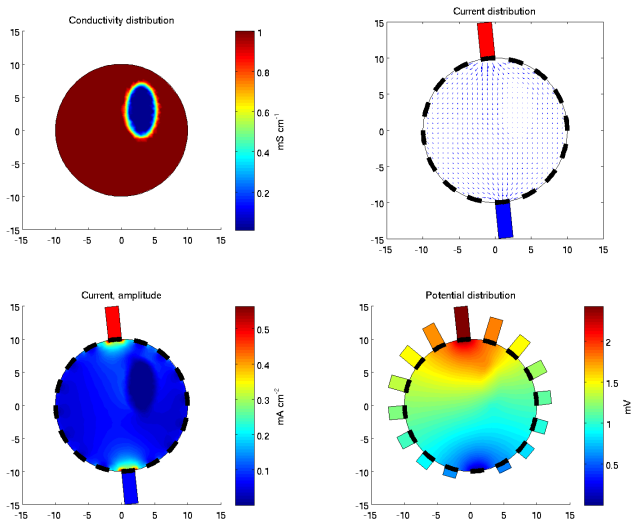


Figure: Current injection 5; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 3

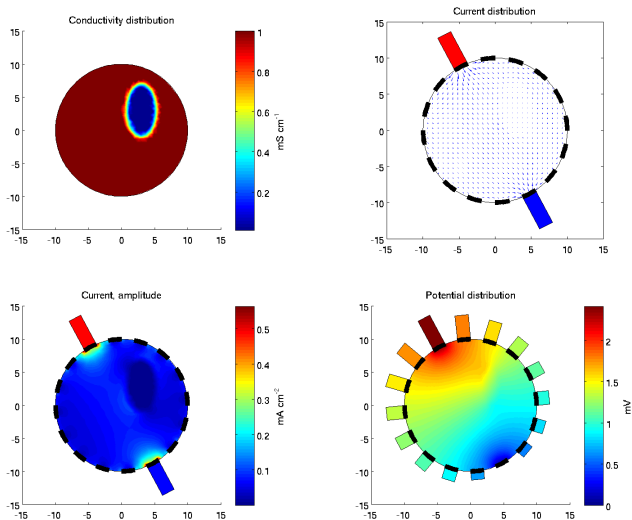


Figure: Current injection 6; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 3

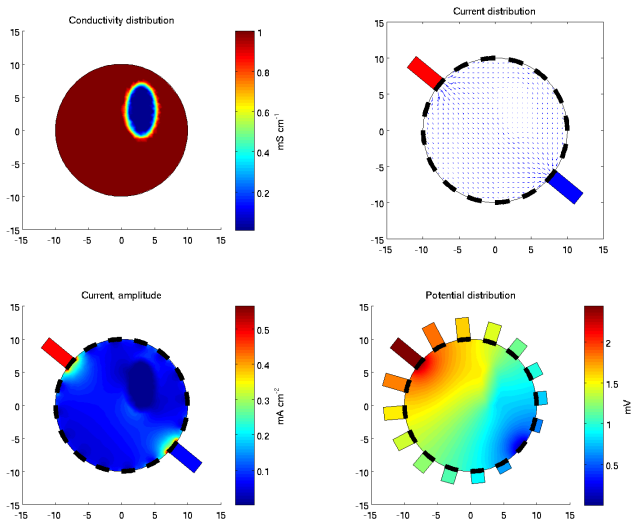


Figure: Current injection 7; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

Example 3

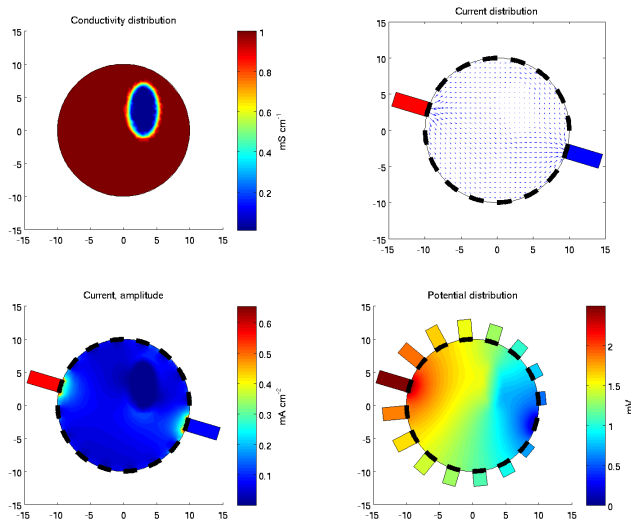
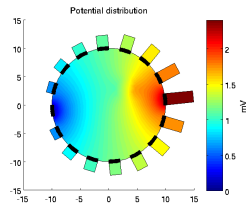
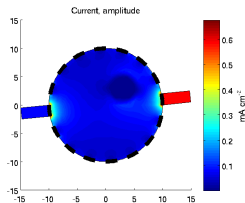
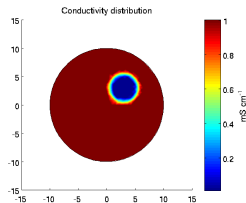
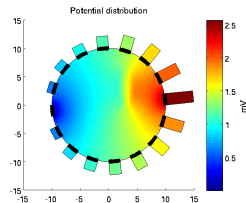
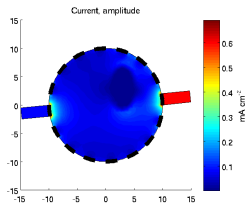
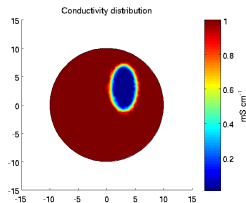
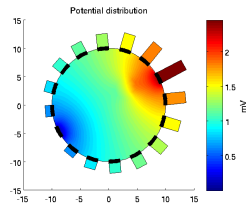
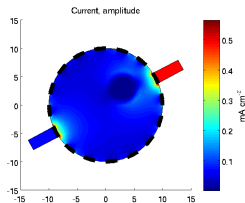
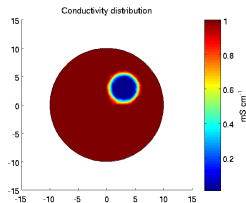
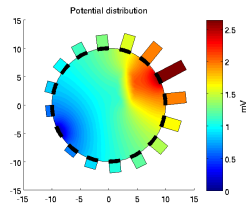
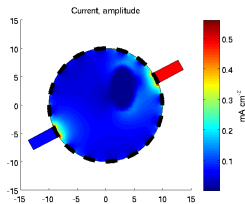
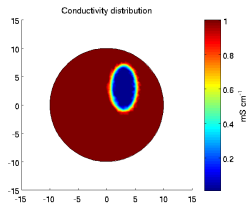


Figure: Current injection 8; Top left: conductivity distribution. Top right: current density distribution. Bottom left: absolute value of the current density. Bottom right: potential distribution and the electrode potentials.

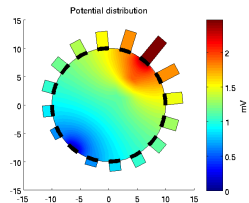
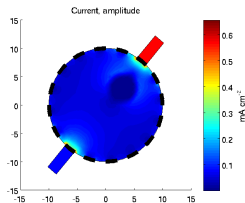
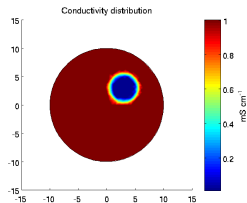
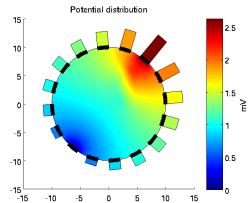
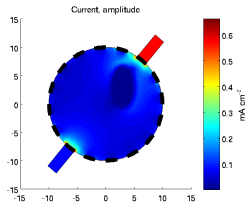
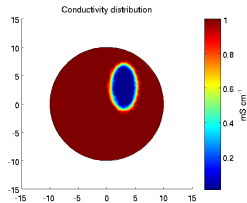
Example 4: Comparison between two different targets



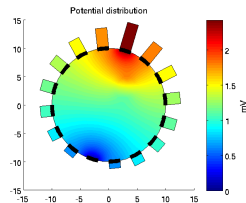
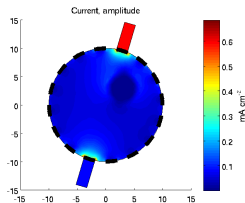
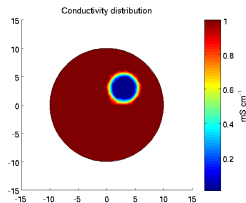
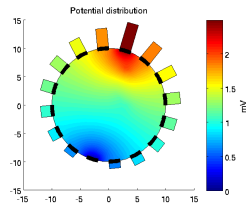
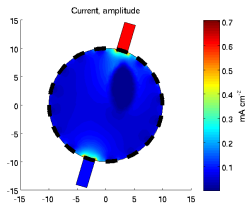
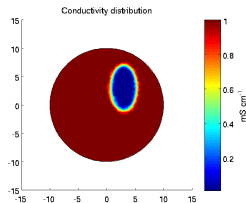
Comparison between two different targets



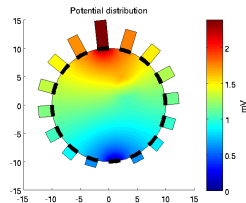
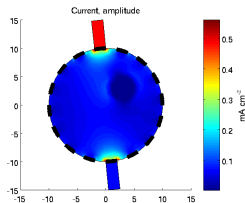
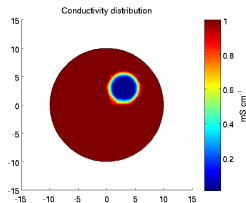
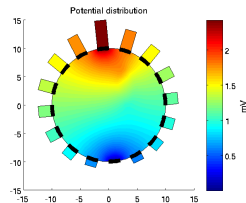
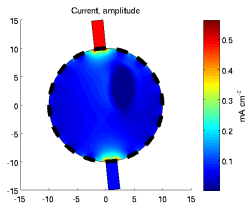
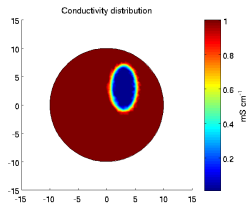
Comparison between two different targets



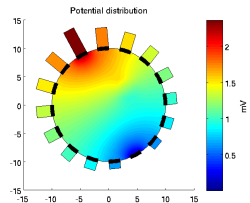
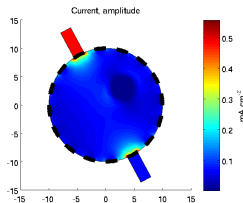
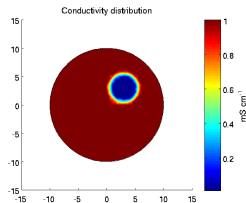
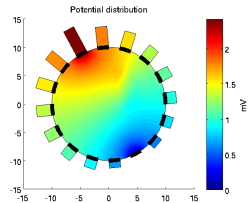
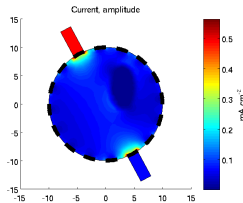
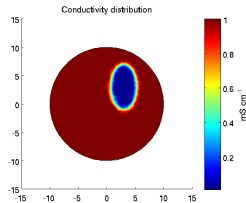
Comparison between two different targets



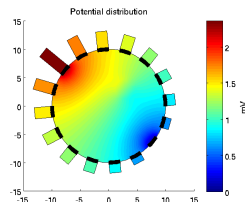
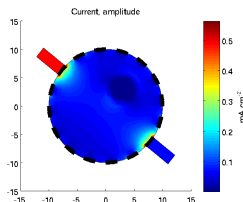
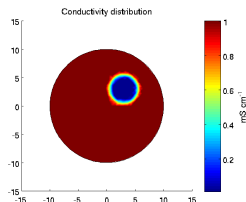
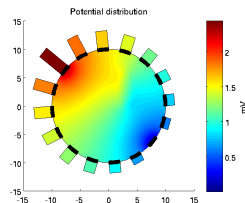
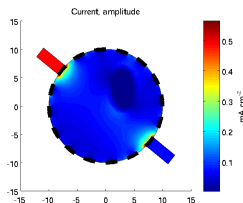
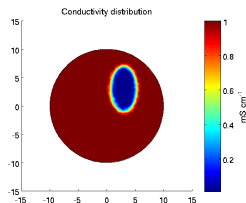
Comparison between two different targets



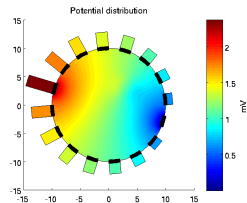
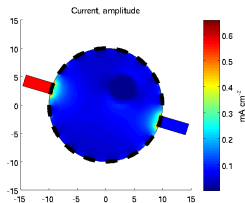
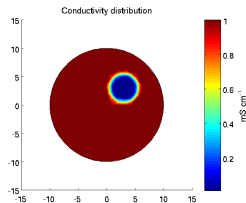
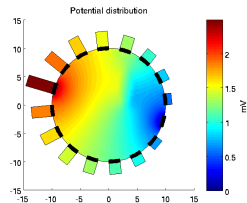
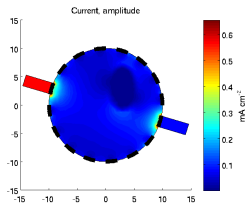
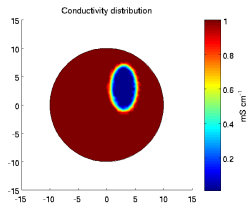
Comparison between two different targets



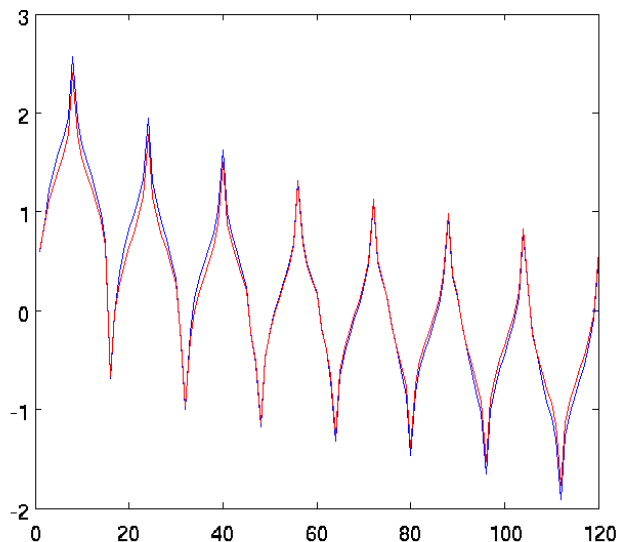
Comparison between two different targets



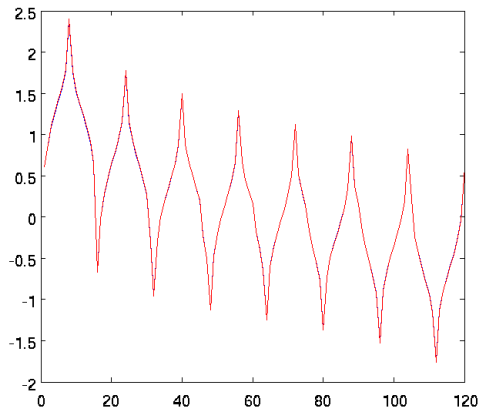
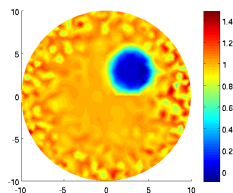
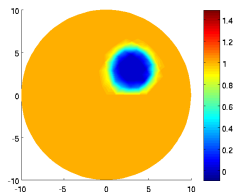
Comparison between two different targets



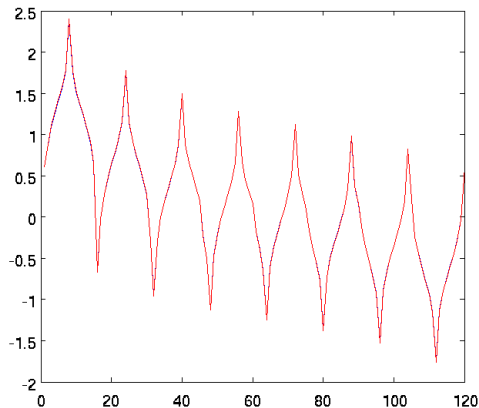
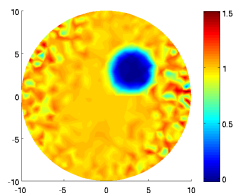
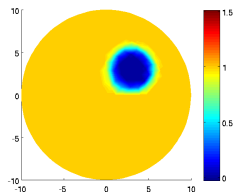
Two different targets: electrode potentials



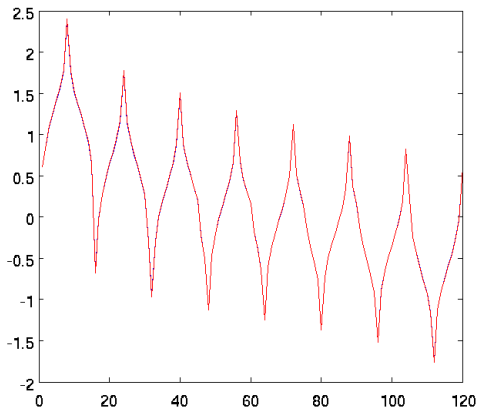
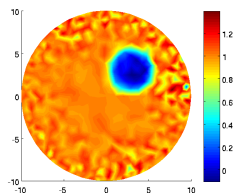
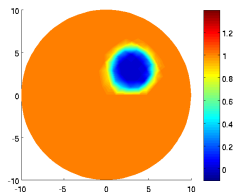
Two different targets & electrode potentials



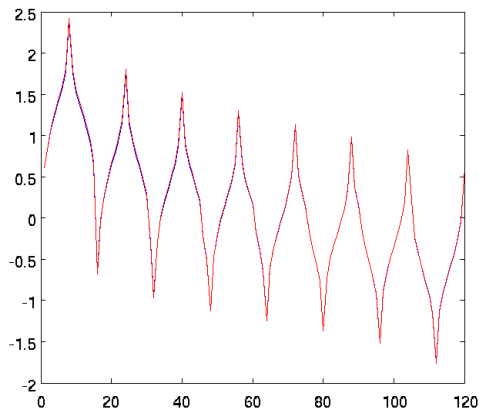
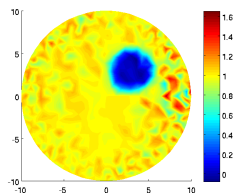
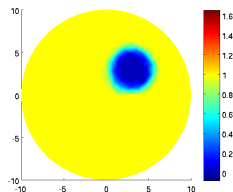
Two different targets & electrode potentials



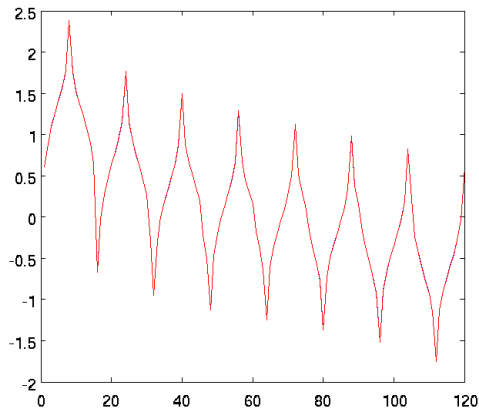
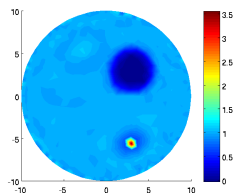
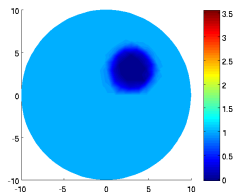
Two different targets & electrode potentials



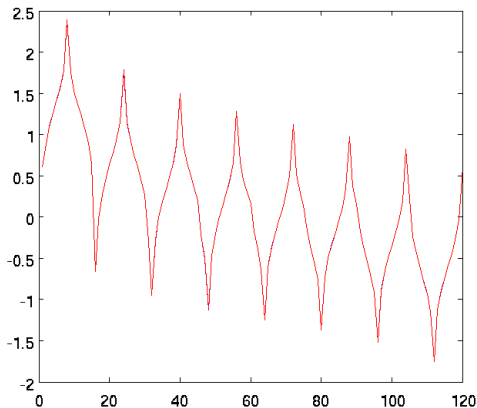
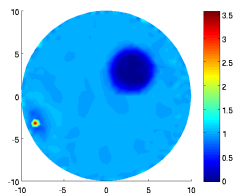
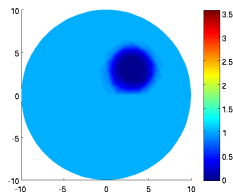
Two different targets & electrode potentials



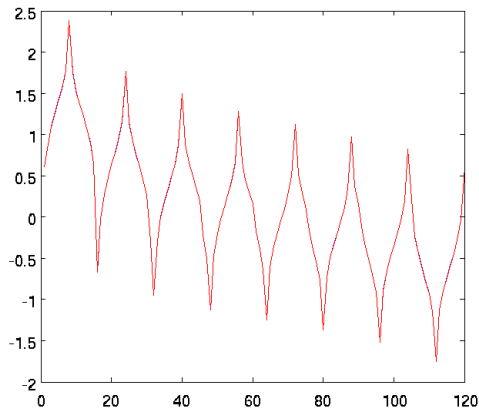
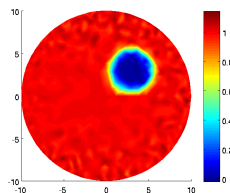
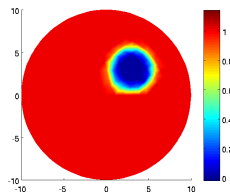
Two different targets & electrode potentials



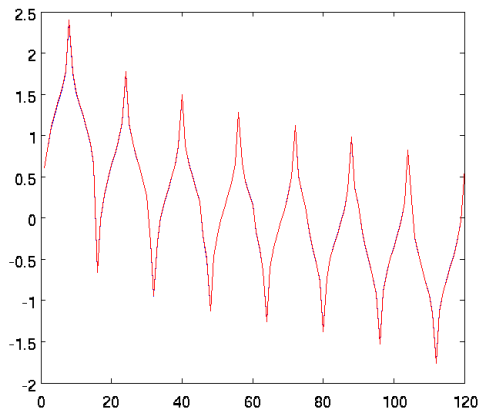
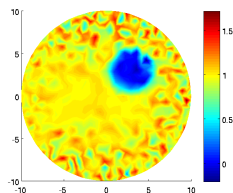
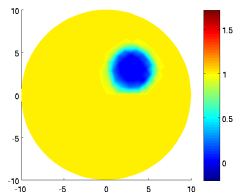
Two different targets & electrode potentials



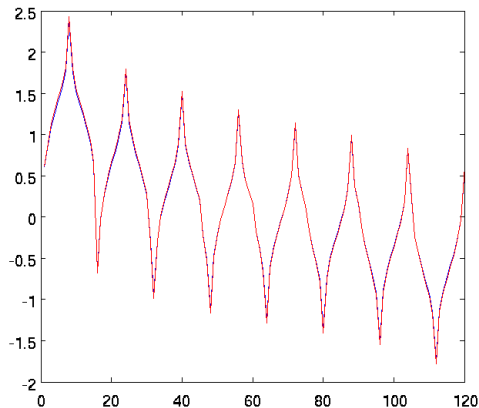
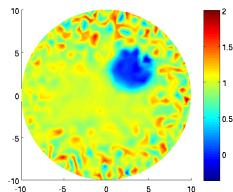
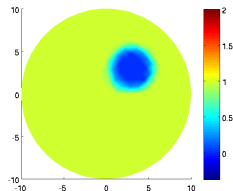
Two different targets & electrode potentials



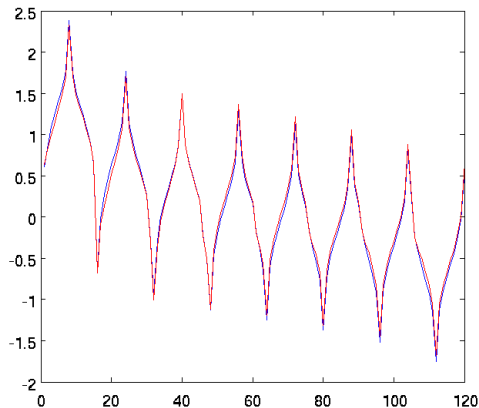
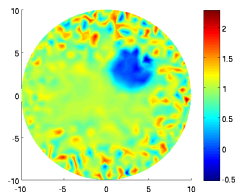
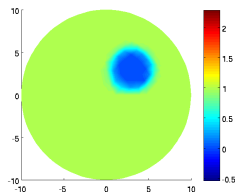
Two different targets & electrode potentials



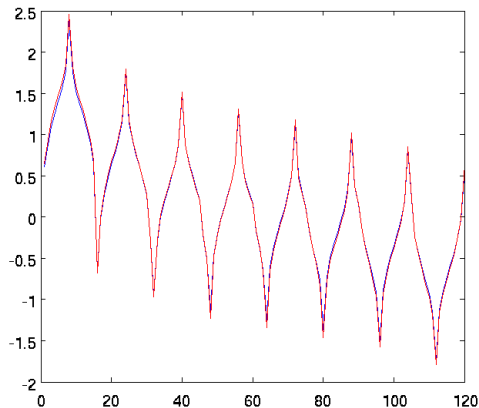
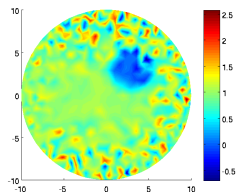
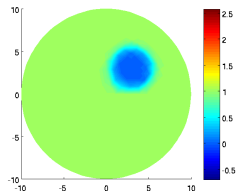
Two different targets & electrode potentials



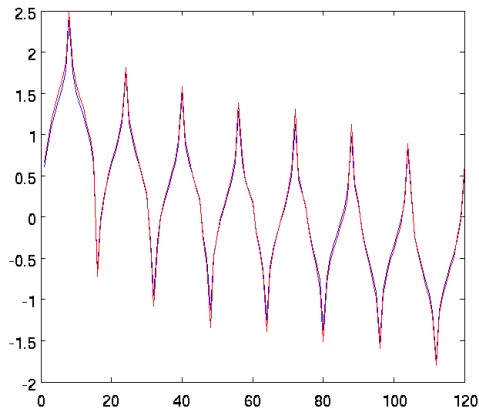
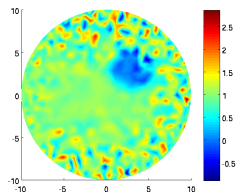
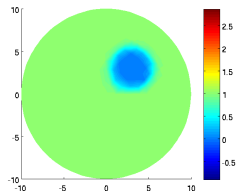
Two different targets & electrode potentials



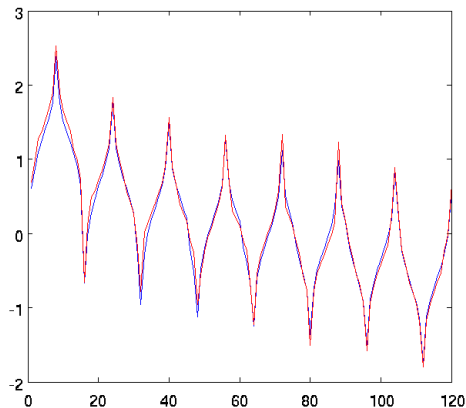
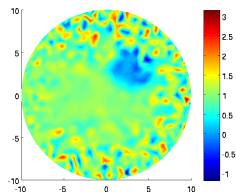
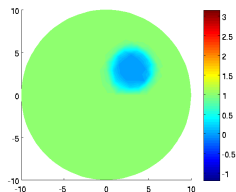
Two different targets & electrode potentials



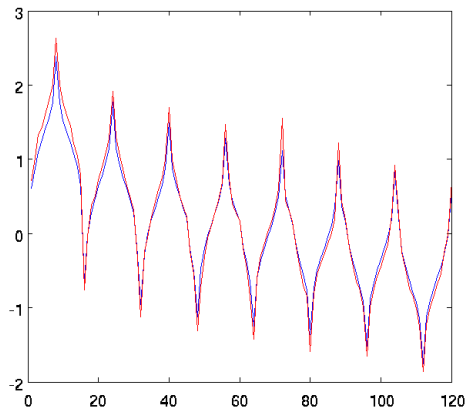
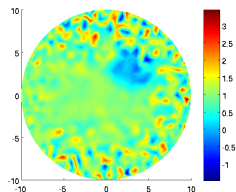
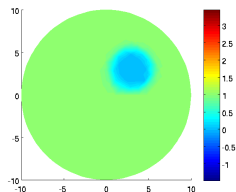
Two different targets & electrode potentials



Two different targets & electrode potentials



Two different targets & electrode potentials



Two different targets & electrode potentials

