

NeuroField

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Abstract

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1. Introduction

- Background information about neural field theory, the problem being solved, alternative approaches etc.
- Present model equations, motivate usage of the code
- Brief overview of key code features e.g. arbitrary populations and connections, plasticity etc.

2. Method and Results

Dotpoint form going over key features of the code, with screenshots. Perhaps go through the key components of the model (populations, propagators, couples) and explain each one

- Populations, can have as many as required, different customizable firing responses, bursting. Stimulus populations, different noise processes, pulsed stimulus, TMS
- Propagators, wave propagator, spherical geometry

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- 15 • Couples, incorporate different types of plasticity
- 16 • MATLAB helper scripts for visualization, power spectrum calculation,
- 17 processing

18 Then an overview of the key modeling achievements

- 19 • Plasticity results (Felix)
- 20 • Corticothalamic model, compare analytic and neurofield result (Romes)
- 21 • Bursting populations (XL)
- 22 • Seizures (XL, Romes)

23 3. Discussion

24 Overview of any tricky issues with the problem being solved e.g. EEGLAB
25 mentions limitations of time/frequency decomposition. Discuss limitations or
26 qualifiers on the usage of the code.

- 27 • Discussion regarding spatial components, grid size, noise amplitude with
28 regard to approximations
- 29 • CFL condition, automatically checked for. Also limitations on Δx de-
30 pending on r_e
- 31 • Incorporating volume conduction

32 4. Acknowledgements

33 To add.

34 5. References