frontiers in
COMPUTATIONAL NEUROSCIENCE

SUPPLEMENTARY MATERIAL
published: 26 May 2010
doi: 10.3389/fncom.2010.00014

Directed coupling in local field potentials of macaque V4 during visual short-term memory revealed by multivariate autoregressive models

Gregor M. Hoerzer[1]*†, Stefanie Liebe[2]*†, Alois Schloegl[3], Nikos K. Logothetis[2] and Gregor Rainer[2,4]

[1] *Institute for Theoretical Computer Science, Graz University of Technology, Graz, Austria*
[2] *Department of Physiology of Cognitive Processes, Max-Planck-Institute for Biological Cybernetics, Tübingen, Germany*
[3] *Institute for Human-Computer Interfaces, Graz University of Technology, Graz, Austria*
[4] *Department of Medicine/Physiology, University of Fribourg, Fribourg, Switzerland*

Edited by: Nicolas Brunel, Centre National de la Recherche Scientifique, France

Reviewed by: Hualou Liang, Drexel University, USA
Mingzhou Ding, University of Florida, USA

*Correspondence: Gregor M. Hoerzer, Institute for Theoretical Computer Science, Graz University of Technology, Inffeldgasse 16b/I, A-8010 Graz, Austria. e-mail: gregor@igi.tugraz.at

Stefanie Liebe, Department of Physiology of Cognitive Processes, Max-Planck-Institute for Biological Cybernetics, Spemannstrasse 38, D-72070 Tübingen, Germany. e-mail: stefanie.liebe@tuebingen.mpg.de

†Gregor M. Hoerzer and Stefanie Liebe have contributed equally to this work.

Received: 30 November 2009; paper pending published: 30 March 2010; accepted: 30 April 2010; published online: 26 May 2010.

Citation: Hoerzer GM, Liebe S, Schloegl A, Logothetis NK and Rainer G (2010) Directed coupling in local field potentials of macaque V4 during visual short-term memory revealed by multivariate autoregressive models. *Front. Comput. Neurosci.* **4**:14. doi: 10.3389/fncom.2010.00014

Copyright © 2010 Hoerzer, Liebe, Schloegl, Logothetis and Rainer. This is an open-access article subject to an exclusive license agreement between the authors and the Frontiers Research Foundation, which permits unrestricted use, distribution, and reproduction in any medium, provided the original authors and source are credited.

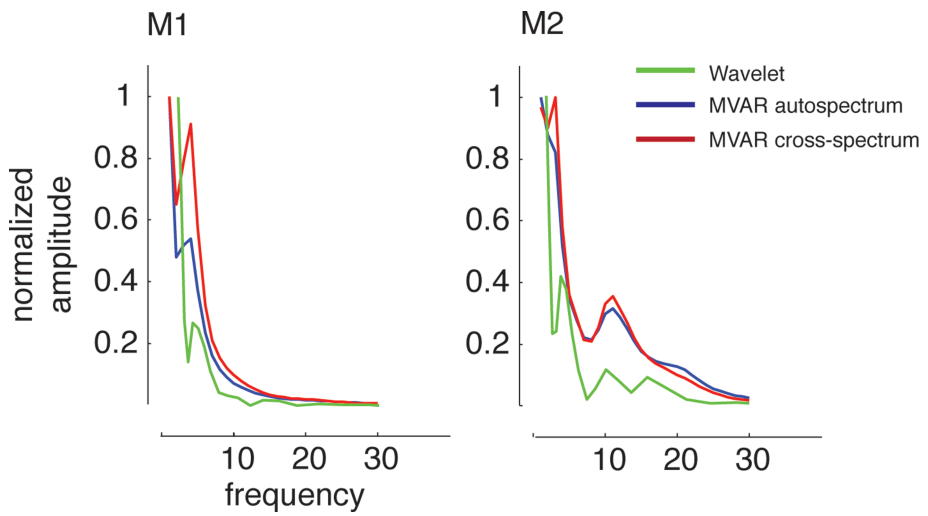

FIGURE S1 |The average normalized amplitude spectra obtained from both analysis methods (MVAR and Wavelet Analysis) per monkey during the delay period in which the coupling effects were observed. For the MVAR method, we show both auto- and cross-spectra. The figure shows that the spectra are comparable between both approaches and that both analyses yield similar peak frequencies within the theta band. Note that the spectra were normalized between their respective minimum and maximum values within the shown frequency range after averaging.