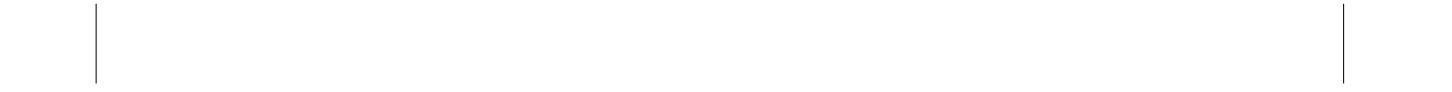


Multi-Agent Model Predictive Control

with Applications to Power Networks

R.R. Negenborn



Multi-Agent Model Predictive Control

with Applications to Power Networks

Proefschrift

ter verkrijging van de graad van doctor
aan de Technische Universiteit Delft,
op gezag van de Rector Magnificus prof.dr.ir. J.T. Fokkema,
voorzitter van het College van Promoties,
in het openbaar te verdedigen op dinsdag 18 december 2007 om 10:00 uur
door Rudy Rafaël NEGENBORN,
doctorandus in de informatica,
geboren te Utrecht.

Dit proefschrift is goedgekeurd door de promotoren:

Prof.dr.ir. J. Hellendoorn
Prof.dr.ir. B. De Schutter

Samenstelling promotiecommissie:

Rector Magnificus
Prof.dr.ir. J. Hellendoorn
Prof.dr.ir. B. De Schutter
Prof.dr. G.J. Olsder
Prof.dr. J.-J.Ch. Meyer
Prof.Dr. G. Andersson
Prof.Dr.-Ing. W. Marquardt
Ir. J.J.M. Langedijk
Prof.dr. C. Witteveen

voorzitter
Technische Universiteit Delft, promotor
Technische Universiteit Delft, promotor
Technische Universiteit Delft
Universiteit Utrecht
ETH Zürich
RWTH Aachen University
Siemens Nederland N.V.
Technische Universiteit Delft (reservelid)



This thesis has been completed in partial fulfillment of the requirements of the Dutch Institute of Systems and Control (DISC) for graduate studies. The research described in this thesis was supported by the project "Multi-agent control of large-scale hybrid systems" (DWV.6188) of the Dutch Technology Foundation STW and by an NWO Van Gogh grant (VGP79-99).

TRAIL Thesis Series T2007/14, The Netherlands TRAIL Research School

Published and distributed by: R.R. Negenborn
E-mail: rudy@negenborn.net
WWW: <http://www.negenborn.net/mampc/>

ISBN 978-90-5584-093-9

Keywords: multi-agent control, model predictive control, power networks, transportation networks.

Copyright © 2007 by R.R. Negenborn

All rights reserved. No part of the material protected by this copyright notice may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without written permission of the author.

Printed in The Netherlands