

Coordinated Control of Inter-area Oscillations using SMA and LMI

Anamitra Pal

Thesis submitted to the faculty of Virginia Polytechnic
Institute & State University in partial fulfillment of
the requirements for the degree of

Master of Science
In
Electrical Engineering

Dr. James S. Thorp, Committee Chair

Dr. Virgilio Centeno, Member

Dr. Robert P. Broadwater, Member

February 17, 2012
Blacksburg, Virginia

Keywords: Inter-area Oscillations, Linear Matrix
Inequality (LMI) Control, Polytopic Model, Selective
Modal Analysis (SMA), Wide Area Measurements

© Copyright 2012 by Anamitra Pal

Permission Letter for using Fig. 4.1

Anamitra

From: Elizondo, David <DElizondo@Quanta-Technology.com>
Sent: Wednesday, November 09, 2011 8:16 AM
To: Anamitra
Cc: jreelope@vt.edu
Subject: RE: Regarding usage of a figure in my MS Thesis

Hello Anamitra:

Based on your email below, I provide you my permission to use the single-line diagram of the 127 Bus WECC system figure that you include in your email and was developed by me during my Phd times at Virginia Tech. Please let me know if you need anything else.

Regards,

David Elizondo.

From: Anamitra [mailto:anam86@vt.edu]
Sent: Tuesday, November 08, 2011 11:24 PM
To: Elizondo, David
Cc: jreelope@vt.edu
Subject: Regarding usage of a figure in my MS Thesis

Hi,

I am Anamitra Pal, doing my direct-PhD in the Center for Power Engineering (CPE) Group at Virginia Tech. As part of my MS Thesis under the direct-PhD program, I have used a **single-line diagram of the 127 Bus WECC system** which was part of your work which you did when you were here. The said figure is sent as an attachment with this e-mail.

The graduate school wants me to have permission from you for using that figure in my thesis as it is your copyright. **So, can you kindly send me an email stating that you permit me to use that figure ?** I will attach that permission letter with my MS Thesis when I submit it to the graduate school. Do let me know if you have any queries regarding it.

Thanking you in advance.

Regards,
Anamitra.

Draft 09/01/2009

(Questions? Concerns? Contact Gail McMillan, Director of the Digital Library and Archives at Virginia Tech's University Libraries: gailmac@vt.edu)

(Please ensure that JavaScript is enabled on your browser before using this tool.)

Virginia Tech ETD Fair Use Analysis Results

This is not a replacement for professional legal advice but an effort to assist you in making a sound decision.

Name: Anamitra

Description of item under review for fair use: Fig. 1.2

Report generated on: 02-19-2012 at: 21:02:25

Based on the information you provided:

Factor 1

Your consideration of the purpose and character of your use of the copyright work weighs: **in favor of fair use**

Factor 2

Your consideration of the nature of the copyrighted work you used weighs: **in favor of fair use**

Factor 3

Your consideration of the amount and substantiality of your use of the copyrighted work weighs: **in favor of fair use**

Factor 4

Your consideration of the effect or potential effect on the market after your use of the copyrighted work weighs: **in favor of fair use**

Based on the information you provided, your use of the copyrighted work weighs: **in favor of fair use**

Draft 09/01/2009

(Questions? Concerns? Contact Gail McMillan, Director of the Digital Library and Archives at Virginia Tech's University Libraries: gailmac@vt.edu)

(Please ensure that JavaScript is enabled on your browser before using this tool.)

Virginia Tech ETD Fair Use Analysis Results

This is not a replacement for professional legal advice but an effort to assist you in making a sound decision.

Name: Anamitra

Description of item under review for fair use: Fig. 4.1

Report generated on: 02-19-2012 at: 21:03:35

Based on the information you provided:

Factor 1

Your consideration of the purpose and character of your use of the copyright work weighs: **in favor of fair use**

Factor 2

Your consideration of the nature of the copyrighted work you used weighs: **in favor of fair use**

Factor 3

Your consideration of the amount and substantiality of your use of the copyrighted work weighs: **in favor of fair use**

Factor 4

Your consideration of the effect or potential effect on the market after your use of the copyrighted work weighs: **in favor of fair use**

Based on the information you provided, your use of the copyrighted work weighs: **in favor of fair use**