The Wall Pressure Spectrum of High Reynolds Number Rough-Wall Turbulent Boundary Layers

Jonathan Bradley Forest

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

Master of Science
in
Aerospace Engineering

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Blacksburg, Virginia

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Figure 2.1 - Schematic of Virginia Tech Stability Wind Tunnel. Figure adapted from facility website, courtesy of AOE department: http://www.aoe.vt.edu/research/facilities/stabilitytunnel/description-stabilitytunnel.html

Figure 2.2 - Schematic of Virginia Tech Stability Wind Tunnel, anechoic test section. Figure adapted from Figure 1 in: Devenport, W. J., R. Burdisso, A. Borgoltz, R. Patricio, and M. Barone. "Aerodynamic and Acoustic Corrections for a Kevlar-Walled Anechoic Wind Tunnel." 16th AIAA/CEAS Aeroacoustics Conference. Stockholm, Sweden, June 7-9, 2010. AIAA-2010-3749.

Written permission documentation

Subject: RE: ETD permissions
From: William Devenport <devenport@vt.edu>
Date: 2/17/2012 2:45 PM
To: Jonathan Forest <jforest@vt.edu>

Jon,

I give you my written permission to use altered versions of the figures below.

William

William J. Devenport,
Professor and Director of the Virginia Tech Stability Wind Tunnel, Assistant Department Head for Facilities, Department of Aerospace and Ocean Engineering, Virginia Tech, 215 Randolph Hall, Blacksburg VA 24061-0203
Tel: (540) 231 4456. Fax: (540) 231 9632.
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-----Original Message-----
From: Jonathan Forest [mailto:jforest@vt.edu]
Sent: Friday, February 17, 2012 1:58 PM
To: William Devenport
Subject: ETD permissions

Dr. Devenport,

May I have written permission to use altered versions of the following figures in my thesis?


Thanks,
Jon
Figure 2.9 - Stability Wind Tunnel Traverse System. Photograph taken by Mike Morton (2011).

Written permission documentation
Subject: RE: ETD permissions
From: Michael Morton <michael.morton87@gmail.com>
Date: 2/17/2012 1:55 PM
To: Jonathan Forest <jforest@vt.edu>

Jon,

Yes, you may use the photograph of the traverse system from the Feb/March tunnel entry in your thesis.

-Mike

On Fri, Feb 17, 2012 at 1:52 PM, Jonathan Forest <jforest@vt.edu> wrote:

Mike,

May I have written permission to use the photograph you took of the traverse system from the Feb/March tunnel entry in my thesis?

Thanks,
Jon

--
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Figure 2.18 - Microphone sleeves embedded in smooth test plate. Photograph taken by Manuj Awasthi (2011).

Written permission documentation

Subject: RE: ETD permissions
From: Manuj Awasthi <vtmanuj@gmail.com>
Date: 2/17/2012 2:59 PM
To: Jonathan Forest <jforest@vt.edu>

Jon,

Sure, you have my permission to use the photographs of the wall plugs I took during the Feb/March tunnel entry for your thesis.

-Manuj

On Fri, Feb 17, 2012 at 1:52 PM, Jonathan Forest <jforest@vt.edu> wrote:

    Manuj,

    May I have written permission to use the photograph you took of the wall plugs from the Feb/March tunnel entry in my thesis?

    Thanks,
    Jon

    --

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