

Ionospheric Simulator (IonSim): Simulating Ionospheric Conditions in a Vacuum Chamber

Saurav Dhar

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
Electrical Engineering

Gregory D. Earle, Chair
William T. Baumann
Scott M. Bailey

Defense date: October 1, 2013
Blacksburg, Virginia

Keywords: Ion Source, Ionosphere, vacuum chamber, Low Earth orbit

Copyright 2013, Saurav Dhar

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: Saurav Dhar

Description of item under review for fair use: Figure 3: Emission current density vs. temperature for data in table 1. Lulai, P., 2001. Determination of filament work function in vacuum. Tech. rep., AVS, p6

Report generated on: 10-23-2013 at : 17:48:32

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: Saurav Dhar

Description of item under review for fair use: Fig. 2 Electron impact ionization cross sections as a function of electron energy for several species. Clemmons, J. H., Friesen, L. M., Katz, N., Ben-Ami, M., Dotan, Y., and Bishop, R. L., 2012. "The Ionization Gauge Investigation for the Streak Mission". Space Science Reviews, 145(3-4), Feb., pp. 263 - 283.

Report generated on: 10-23-2013 at : 18:04:19

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





Saurav Dhar <sdhar86@vt.edu>

Permissions

2 messages

Saurav Dhar <sdhar86@vt.edu>
To: Ryan Davidson <ryandav@vt.edu>

Wed, Oct 23, 2013 at 4:49 PM

Hey Ryan,

May I use Simon generated Ion optics simulation picture, Simon generated potential map and a plot showing different filament resistance that you sent to me in my thesis?

Thanks,
Saurav Dhar

Ryan Davidson <ryandav@vt.edu>
To: Saurav Dhar <sdhar86@vt.edu>

Thu, Oct 24, 2013 at 11:14 AM

Saurav,

Yes. I give you permission to use the three images listed above as well as the ionization cross-section plot I provided you in your Virginia Tech Masters Thesis.

Best,

Dr. Ryan Davidson
Space@VT
[Quoted text hidden]