Subject: Re: Final Technical Draft
Date: Friday, January 26, 2018 at 12:32:03 PM Pacific Standard Time
From: Murkowski, Ann
To: Hofstad, Cory
CC: Owens, Kalyn
Attachments: image001.png, pastedImage.png, pastedImage.png

Thanks for sending this along, Cory. It's definitely improved substantially since I last read it.

I would like to encourage you to look at it one more time for a couple of reasons before I score it against our rubric. The overall document is still quite long. I think it would benefit from tightening up some of the language and proof reading one more time. (Your method, for example, still references xenon, but I believe you've switched your inquiry to sulfur hexaflouride. I also notice that Hans Jenny is referenced in the text as a 2001 publication and in your sources as a 2006 publication--He's been dead since 1972 so we should probably clean this piece up. You also don't need to quote yourself as you're the author of this document-- rewording that piece could make your narrative more cohesive.)

On a more substantial note, I'd still love to see this work grounded in primary literature. We want to be sure we can clearly answer the question of how this work will create new knowledge. I think there is some literature around this piece. Have you fully explored papers like these?

Vortices in a **gas**-discharge **plasma**.

Authors: A R Aramyan
G A Galechyan

Source: Physics-Uspekhi. Feb2008, Vol. 50 Issue 11, p1147-1169. 23p.

Document Type: Article

Subject Terms: *IONIZED gases
***GAS** flow
***VORTEX** motion
*AERODYNAMICS

Abstract: Processes of **vortex** generation in a weakly ionized **gas** are reviewed in circumstances where a high-speed flow propagates along the **gas** discharge and **acoustic** waves interact with a positive column. Results on the effect of longitudinal **gas** flow in the positive-column properties are presented. It is shown that in certain conditions the **gas** flow in the positive column gives rise to **vortices** that cause the **plasma** to mix radially, producing a uniformly excited **gas** at high pressures. Results concerning the interaction of **acoustic** waves with low-temperature **plasma** are reviewed, and the **acoustic**-stimulated formation of **vortex** motion leading to an uncontracted discharge at elevated pressures is discussed. Also examined are flashes of superluminescence in an argon discharge caused by an abrupt transition of a positive column containing **acoustic vortices** from the uncontracted state to the contracted one at heightened pressures; this transition is understood to occur because of the turbulent-to-laminar transition in the **acoustic** flow. Finally, a **gas**-discharge acoustically induced laser is described. [ABSTRACT FROM AUTHOR]

ISSN: 1063-7869

"**Cymatics**" of selenium and tellurium films deposited in vacuum on vibrating substrates.

Authors: Hristova-Vasileva, T.[1] *teddie@issp.bas.bg*
Bineva, I.[1]
Dinescu, A.[2]
Arsova, D.[1]
Nesheva, D.[1]

Source: Surface & Coatings Technology. Dec2016 Part A, Vol. 307, p542-546. 5p.

Document Type: Article

Subject Terms: *SELENIUM
*TELLURIUM
*THIN films
*SURFACE coatings
*SURFACE roughness

Author-Supplied Keywords: Atomic force microscopy
Audible vibrations
Physical vapor deposition
Scanning electron microscopy
Thin films
X-ray diffraction

NAICS/Industry Codes: 325510 Paint and Coating Manufacturing

Abstract: Amorphous selenium and crystalline tellurium thin films were deposited by frequency assisted thermal deposition in vacuum – a new approach for preparation of thin films based on condensation of the evaporated material on an excited substrate, at which vibrations with audible input frequencies are applied. Frequencies of 0, 50, 150 and 4000 Hz were used. The films crystallographic structure stays intact but an effect depending on the applied frequency was observed. Formation of undulated film surfaces at near infrasonic input frequencies excitement is observed with surface roughness maximum at 50 Hz. The surfaces are highly smooth when a mid-sonic 4 kHz vibration was applied. [ABSTRACT FROM AUTHOR]

While not exactly what you're proposing, papers like these might help inform your design.

Lastly, I'd encourage you to revise your conclusions and make them more professional. If you'd like to work with Davene as a mentor, for example, I'd be happy to check with her and see if she's willing. But this isn't really the level of detail needed in this section. (You and I should just chat!) Finding willing subject matter experts will definitely be a challenge for this project, but we don't need a narrative here describing your interactions with individual faculty members.

Let me know how you'd like to proceed. I definitely don't want to distract you too long from getting started, especially as you have a substantial amount of materials and supplies to find/borrow. On the flip side, however, writing a concise, effective proposal is a very important skill that all researchers need to master. We all end up needing to demonstrate to granting agencies, investors, and/or boards that our ideas are solid and well-grounded.

Have a great weekend!

Ann

Ann J. Murkowski
Biology Faculty
North Seattle College
Program Coordinator: Ready, Set, Transfer! (RST)

From: Hofstad, Cory

Sent: Thursday, January 25, 2018 2:06:05 PM
To: tfurutan@northseattle.edu; Owens, Kalyn; Murkowski, Ann; Hofstad, Cory; Villar, Ana
Subject: Final Technical Draft

I am attaching my final draft, this includes the most detailed breakdown of my project at this point.

Thanks everyone!

--
Cory Andrew Hofstad
Aerospace Engineering Student
North Seattle College
2017-2018 EdFund Scholarship Award Recipient

(206) 476-9801
cory.hofstad@seattlecolleges.edu