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JNT Manuscript Referee Comments

8 messages

Maxie Schmidt <maxieds@gmail.com>

Wed, Jun 16, 2021 at 2:50 PM

To: Steven J Miller <sjm1@williams.edu>

Steven,

I received the notification about my JNT submission being accepted for another revision. Overall, it is very reassuring that my ~40 pages of technical analytic NT arguments lead to qualitative comments back from the reviewer. On the other hand, and as I talked with you about prior to submitting with respect to exposition and making the article introduction more accessible, I have some questions about how to adequately address one of the points from the referee. They responded:

"It takes a long time to see exactly what theorems the author is proving, and when you see 'em, it's unclear why anyone would do this."

Can you offer me some insights on how to prepare my revision to address this concern?

N.b., much of the motivation for the proofs (certainly in Section 4) follow in the spirit of Montgomery and Vaughan's text working with the function $\Omega(n)$. It also seems apparent to me having read through Iwaniec and Kowalski that working with (convolutions of, strongly) additive functions has an enormous benefit in the sense that functions of this type come bundled with regularity in the form of a limiting probability distribution. So I think that my methodology follows from adapting the proofs in MV to my new functions, and leveraging the connections of $M(x)$ to additive functions. Is this clear enough as elaborated on in the manuscript?

Thanks.

Maxie

Steven J Miller <sjm1@williams.edu>

Wed, Jun 16, 2021 at 8:38 PM

To: Maxie Schmidt <maxieds@gmail.com>

be very clear in the introduction

compare what you are doing to previous work

what results of yours are new?

what results of yours arise from a new perspective?

does this new perspective help you solve other problems? or does it have promise to? or is it a simpler proof? is it more elementary?

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Maxie Schmidt <maxieds@gmail.com>

Thu, Jun 17, 2021 at 3:53 AM

To: Steven J Miller <sjm1@williams.edu>

Steven,

Thank you again for the suggestions and help towards exposition clarity with this paper. It is extremely helpful to see concrete suggestions in this direction.

I am attaching a revised draft updating the introduction section I modified following your points in the last message. The primary changes are on pages 4-5 (summary of the high level context) and on page 7 where I expressly provide a few more results from the core proof sections of the article and give the referee requested references to the theorem-environment label for the corresponding proofs. Can you read through it and give me your feedback on preparing the introduction?

Maxie

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mertens-lower-bounds-2021.06.17-sjmintro.pdf

477K

Steven J Miller <sjm1@williams.edu>
To: Maxie Schmidt <maxieds@gmail.com>

Thu, Jun 17, 2021 at 5:37 AM

you start out

1 Introduction
1.1 Preliminaries
1.1.1 Definitions

I would go

1 Introduction

a short high level paragraph setting the stage for the article; you can assume a knowledgeable reader, this is the 30,000 foot explanation of what you are doing, what your contribution is, why we should read on.

1.1 Preliminaries
1.1.1 Definitions

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Maxie Schmidt <maxieds@gmail.com>
To: Steven J Miller <sjm1@williams.edu>

Thu, Jun 17, 2021 at 7:45 AM

Steven,

Are you willing to scan another draft later today? I do not want to be overbearing with this...

Maxie

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Steven J Miller <sjm1@williams.edu>
To: Maxie Schmidt <maxieds@gmail.com>

Thu, Jun 17, 2021 at 9:36 AM

not really, I'm sick and just have too much going on
[Quoted text hidden]

Maxie Schmidt <maxieds@gmail.com>
To: Steven J Miller <sjm1@williams.edu>

Thu, Jun 17, 2021 at 12:47 PM

Ok, thanks again for the helpful input in the last emails. Hope you get well soon.

Maxie

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Steven J Miller <sjm1@williams.edu>
To: Maxie Schmidt <maxieds@gmail.com>

Thu, Jun 17, 2021 at 2:25 PM

thnx

slowly getting there

problem is my REU has started, and all I can do to do a half day of lectures / discussions

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