发件人: **Appelo, Daniel** appeloda@msu.edu
主题: Re: Some problem with CMSE 823 project
日期: 2021年3月3日 上午7:59
收件人: Lyu, Liyao lyuliyao@msu.edu
抄送: Wang, Elena wangx249@msu.edu

DA

Hi Liyao,

Ok, now I understand what you mean. I guess the idea is that you should figure out how to solve the problem ;-) … but you can take a look a the note I attached. It should be clear how Woodbury can be used together with Jacobi or GS for the Dirichlet problem from it.

Take a look and let me know if something is unclear.

Thanks,
Daniel

Daniel Appelö
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> On Mar 2, 2021, at 6:02 PM, Lyu, Liyao <lyuliyao@msu.edu> wrote:
>
> Dear Prof. Appelo,
>
> Considering the extending system, There will be a zero along the diagonal of the matrix.
>
> <粘贴的图形-2.png>
>
> Best wishes
> --
> Liyao Lyu
> Department of Computational Mathematics, Science, and Engineering
> Michigan State University
> Email: lyuliyao@msu.edu
> URL: http://lylyu.com
>
> > 2021年3月3日 上午2:53，Appelo, Daniel <appeloda@msu.edu> 写道：
> >
> > Hi Liyao,
> >
> > I am a bit confused about your discretization. I don’t think there are any zeros along the diagonal of the matrix?
> >
> > Thanks,
> > Daniel
> >
> > Daniel Appelö
> > Associate Professor
> > Michigan State University
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> > appeloda@msu.edu
> > danielappelo.com
> >
> > > On Mar 2, 2021, at 2:11 AM, Lyu, Liyao <lyuliyao@msu.edu> wrote:
> > >
> > > Dear Prof. Appelo,
> > >
> > > I’m trying to solving Neumann problem with Jacobi method and Gauss-Seidel method.
> > > Since the diagonal elements of matrix have zero in the last, it seems that this two methods cannot work?
> > > I can make some modifications to make Gauss-Seidel method converge but the Jacobi method seems always diverge.
> > > What we can do about the Jacobi method?

BTW, I can't also see second order converge of error with respect to the grid mesh the direct method . This seems to be related to the constant you impose is only first order.Is it OK?

Best wishes

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Liyao Lyu
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