

**Subject:** Re: [Fwd: Re: [Fwd: Re: [Fwd: AW: questions from Argonne Labs via scint-x]]]

**From:** per wiklund <per.wiklund@scint-x.com>

**Date:** Fri, 07 May 2010 11:09:16 +0200

**To:** Antonino Miceli <amiceli@aps.anl.gov>

Hi Nino,

We can have the camera available during June for testing. Please indicate what part of June that you would like to have it available!

We would like to visit you at a suitable time so that we can demo the camera and hopefully be present during some of your experiments.

We need to charge you a cost for renting the camera of USD 850 per week plus the costs for sending the camera to you (which is safer and easier method than us handcarrying the camera)

Rental costs will of course be deducted from the price, should you decide to buy the camera.

Thanks for the tip regarding rayonix, I will check it up!  
should be interesting to hear the results from their tests on our scintillator.

cheers//per

Per Wiklund  
CEO  
Scint-X AB  
Electrum  
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Sweden

phone: +46701 110 651  
[www.scint-x.com](http://www.scint-x.com)

Antonino Miceli skrev:

Hi Per,

Ok. Any word on the camera loan?

I have recently spoken to Michael Blum at company that makes x-ray CCD detectors for synchrotrons. They are located in Chicago. They are a good company are interested in using your scintillators. I should have thought about them before. They should be more interested than Fairchild! They will try our prototype scintillator on one of their cameras. Check out their website: <http://www.rayonix.com/>

Cheers,  
Nino

per wiklund wrote:

Hi Nino,

The preferred solution would be a camera on loan during 3-4 weeks. There will be a small charge for this (misc. costs & shipping etc)

I will investigate and get back to you with a number, however I do not think it will be very expensive!

The target would be to make the camera available to you in early June.

Sending the camera is safer than bringing it over. However, we would be interesetd in visiting you at some suitable time during the tests.

After evaluation, and if you actually decide to buy the camera, there will be no problem in delivering before end of September, provided that you place the order by end of June-beginning of July.

I enclose an updated proposal.(I will get back to you regarding the 21 MHz option - not mentioned in the proposal)

With respect to the scintillator unit, it can be non-destructively removed (the FOP is an integral part of the camera, though)

Regarding your questions, I quote the answers from Vosskühler:

1)

By means of certain optimizations we are able to achieve approx. 40e read-out noise at 21 MHz for this camera. However, this is only feasible when having the final order on hand. Initially the loan camera will have a read-out rate of 40 MHz.

2)

Owing to the cooling of the sensor a temperature of 0 - 5° C can be achieved. This is caused by the fibre optics conducting a lot of heat from the outside into the CCD.

(from where did you get the figure -20C?? <my comment> )

have I missed anything??

best regards//per

Per Wiklund  
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Antonino Miceli skrev:

Hi Per,

I mean the CCD sensor temperature. -20C?

Thanks,  
Nino

----- Original Message -----

From: per wiklund <[per.wiklund@scint-x.com](mailto:per.wiklund@scint-x.com)>

Date: Monday, April 26, 2010 11:51 am

Subject: Re: [Fwd: Re: [Fwd: Re: [Fwd: AW: questions from Argonne Labs via scint-x]]]

To: Antonino Miceli <[amiceli@aps.anl.gov](mailto:amiceli@aps.anl.gov)>

> hi Nino,  
> I am presently investigating options..... I will try to have an  
> answer  
> by Friday, hope this is OK!  
> Could you please clarify the question:  
> "Can you verify that the CCD temperature will be for the COOL-  
> 11000XR?"What temperature do you refer to?  
>  
> regards//per  
>  
> Per Wiklund  
> CEO  
> Scint-X AB  
> Electrum  
> Isafjordsgatan 22, B5  
> SE-164 40 Kista  
> Sweden

>  
> phone: +46701 110 651  
> [www.scint-x.com](http://www.scint-x.com)  
>  
>  
>  
> Antonino Miceli skrev:  
> > Hi Per,  
> >  
> > I haven't heard from you. Did you get my email below?  
> >  
> > Cheers,  
> > Nino  
> >  
> > ----- Original Message -----  
> > Subject: Re: [Fwd: Re: [Fwd: AW:  
> questions from Argonne Labs via  
> > scint-x]]  
> > Date: Tue, 20 Apr 2010 11:25:18 -0500  
> > From: Antonino Miceli  
> > <[amiceli@aps.anl.gov](mailto:amiceli@aps.anl.gov)>> To: per  
> > wiklund <[per.wiklund@scint-x.com](mailto:per.wiklund@scint-x.com)>, Jonathan Almer  
> > <[almer@aps.anl.gov](mailto:almer@aps.anl.gov)>  
> > References: > <[201003161657.o2GGvEKO011330@alipes.aps.anl.gov](mailto:201003161657.o2GGvEKO011330@alipes.aps.anl.gov)>  
> > <[4BCDBE7C.5010603@scint-x.com](mailto:4BCDBE7C.5010603@scint-x.com)>  
> >  
> >  
> >  
> > Hi Per,  
> >  
> > I think given our time constraints, I think we should think  
> > about  
> > starting a procurement of the detector soon.  
> > Do you think it is possible to have an option in the  
> > procurement where  
> > we have the option to return the detector  
> > if we think it is not good for us? For example, a one month  
> > evaluation  
> > period? Or we can place to order now, have you come in June  
> > for  
> > testing and if it is not suitable for us, we can cancel the  
> > order.  
> > What do you think? I would prefer the ordering with the option  
> > to  
> > return after one month.  
> >  
> > We will need an updated quote.  
> >  
> > Can you ask the CCD vendor if the noise can be reduced lower  
> > than 50e-  
> > at 21MHz readout speed?  
> >  
> > Can you verify that the CCD temperature will be for the COOL-  
> > 11000XR?>  
> > Also, can we upgrade the CCD camera in the future (i.e., can  
> > the  
> > scintillator and/or FOP  
> > be non-destructively be removed?  
> >  
> > If we can only have one, we would like the slower readout  
> > (21MHz,  
> > 1.5fps).  
> >  
> > Also, what would be the delivery time? Since this is under  
> > \$50k, we  
> > can buy with non-capital money, but it needs to be  
> > delivered by the end of FY10 (Sept 2010).

> >  
> > Thanks,  
> > Nino  
> >  
> > per wiklund wrote:  
> >> hi Nino,  
> >> I just wanted to follow up on our telephone conversation some  
> weeks ago:  
> >> -It was decided to postpone testing of the camera until June.  
> This is  
> >> fine with us, however it would be good to have some  
> documentation  
> >> from you in order to make it easier for us bringing the  
> camera  
> >> through US customs (proforma invoice or similar).  
> >> If you have any other questions or thoughts, please don't  
> hesitate to  
> >> send me an e-mail!  
> >>  
> >> best regards//per  
> >>  
> >>  
> >> Per Wiklund  
> >> CEO  
> >> Scint-X AB  
> >> Electrum  
> >> Isafjordsgatan 22, B5  
> >> SE-164 40 Kista  
> >> Sweden  
> >>  
> >> phone: +46701 110 651  
> >> [www.scint-x.com](http://www.scint-x.com)  
> >> > >>  
> >> Antonino Miceli skrev:  
> >>> Is 10:00 too late for you?  
> >>>  
> >>> My number is 630-252-8827. It might be easier for me to call  
> you,  
> >>> though.  
> >>>  
> >>> Let me know.  
> >>>  
> >>> Nino  
> >>>  
> >>> [Message delivered by NotifyLink]  
> >>>  
> >>> -----Original Message-----  
> >>>  
> >>> From: per wiklund <[per.wiklund@scint-x.com](mailto:per.wiklund@scint-x.com)>  
> >>> Sent: Tue, March 16, 2010 10:35 AM  
> >>> To: [amiceli@aps.anl.gov](mailto:amiceli@aps.anl.gov)  
> >>> Subject: Re: [Fwd: Re: [Fwd: AW: questions from Argonne Labs  
> via  
> >>> scint-x]]  
> >>>  
> >>> hi Nino,  
> >>> I am presently investigating when we can have the camera  
> ready, but  
> >>> I would suppose that we should be able to visit you well  
> before end  
> >>> of April.  
> >>> Let us talk on Thursday, when are you available local  
> Chicago time?  
> >>> (the time difference is 7 hours between Stockholm and Chicago)  
> >>> Phone number? (preferrably landline)  
> >>>  
> >>> cheers//per

> >>>  
> >>> Per Wiklund  
> >>> CEO  
> >>> Scint-X AB  
> >>> Electrum  
> >>> Isafjordsgatan 22, B5  
> >>> SE-164 40 Kista  
> >>> Sweden  
> >>>  
> >>> phone: +46701 110 651  
> >>> [www.scint-x.com](http://www.scint-x.com)  
> >>>  
> >>>  
> >>> Antonino Miceli skrev:  
> >>> > >>>> Per,  
> >>>>  
> >>>> I think a visit by you is a good idea. We would have to  
> find a good  
> >>>> time to do this. Our x-rays will be available until the end  
> of  
> >>>> April; they are shutdown for most of May and resume in  
> early June.  
> >>>> Jon will know when would be a good time to do a test. How  
> soon  
> >>>> could you come?  
> >>>>  
> >>>> I will be going to Portland shortly for a conference. I  
> will return  
> >>>> on Wednesday. Maybe we can talk on Thursday morning Chicago time?  
> >>>> In the meantime, we can communicate via email.  
> >>>>  
> >>>> Cheers,  
> >>>> Nino  
> >>>>  
> >>>> [Message delivered by NotifyLink]  
> >>>>  
> >>>> -----Original Message-----  
> >>>>  
> >>>> From: per wiklund <[per.wiklund@scint-x.com](mailto:per.wiklund@scint-x.com)>  
> >>>> Sent: Sun, March 14, 2010 6:02 AM  
> >>>> To: Antonino Miceli <[amiceli@aps.anl.gov](mailto:amiceli@aps.anl.gov)>  
> >>>> Subject: Re: [Fwd: Re: [Fwd: AW: questions from Argonne  
> Labs via  
> >>>> scint-x]]  
> >>>>  
> >>>>  
> >>>> hi Nino,  
> >>>> It is possible, in principle, to evaluate the system during  
> a test  
> >>>> period.  
> >>>> However we have to sort out the details; how much time do  
> you need  
> >>>> to test the camera, we may need some type of insurance etc.  
> >>>> One idea is that we bring the system over, then we will  
> also get a  
> >>>> chance to visit you learn more about your  
> needs&requirements and  
> >>>> about the application.  
> >>>> Let us discuss the options in more detail. If you give me a  
> >>>> landline phone number and when you would be available, we  
> could  
> >>>> have a Skype phone conversation during the coming week.  
> >>>> best regards//per  
> >>>>  
> >>>> Per Wiklund  
> >>>> CEO

> >>>> Scint-X AB  
> >>>> Electrum  
> >>>> Isafjordsgatan 22, B5  
> >>>> SE-164 40 Kista  
> >>>> Sweden  
> >>>>  
> >>>> phone: +46701 110 651  
> >>>> [www.scint-x.com](http://www.scint-x.com)  
> >>>>  
> >>>>  
> >>>> Antonino Miceli skrev:  
> >>>> > >>>> Hi Per,  
> >>>>  
> >>>>> Any more news from your end? (See my last email below.) We  
> need to  
> >>>>> make a decision about this purchase soon.  
> >>>>>  
> >>>>> Thanks,  
> >>>>> Nino  
> >>>>>  
> >>>>> ----- Original Message -----  
> >>>>> Subject: Re: [Fwd: AW: questions  
> from Argonne Labs via scint-x]  
> >>>>> Date: Mon, 08 Mar 2010 16:07:26 -0600  
> >>>>> From: Antonino Miceli  
> <[amiceli@aps.anl.gov](mailto:amiceli@aps.anl.gov)>>>>> To: per  
> wiklund <[per.wiklund@scint-x.com](mailto:per.wiklund@scint-x.com)>, Jonathan Almer  
> >>>>> <[almer@aps.anl.gov](mailto:almer@aps.anl.gov)>  
> >>>>> References: > <[4B710B54.1020908@scint-x.com](mailto:4B710B54.1020908@scint-x.com)>  
> >>>>> <[4B719904.9010502@aps.anl.gov](mailto:4B719904.9010502@aps.anl.gov)>  
> <[4B792239.5010604@scint-x.com](mailto:4B792239.5010604@scint-x.com)>  
> >>>>>  
> >>>>>  
> >>>>>  
> >>>>> Hi Per,  
> >>>>>  
> >>>>> I think Fairchild is hopeless. We have to move forward. My  
> main  
> >>>>> concern is the noise of your system. Is there anyway for  
> use to  
> >>>>> test the system here at APS before we commit to purchase  
> it? Could  
> >>>>> there be some period of evaluation in the purchase where  
> we could  
> >>>>> return the system if the performance is  
> >>>>> not appropriate for a synchrotron? Our application is a  
> little  
> >>>>> different than the typical application with an in-house  
> tube  
> >>>>> source; they do not tend to be photon starved. We are  
> doing  
> >>>>> diffraction and the signals tend be weaker since we are  
> probing  
> >>>>> smaller lengths scales. We would probably go with the  
> slower  
> >>>>> readout version that has the lower readnoise.  
> >>>>>  
> >>>>> I think if the system works well and is effective, I think  
> that  
> >>>>> would probably purchase at least one more. We could also  
> help you  
> >>>>> get this system into our synchrotrons if it is effective  
> for us.  
> >>>>>  
> >>>>> Please let us know.  
> >>>>>

> >>>> Sincerely,  
> >>>> Nino  
> >>>>  
> >>>>  
> >>>> per wiklund wrote:  
> >>>> > >>>>> hi Nino,  
> >>>>> I did send him an e-mail describing Scint-x and what we do.  
> >>>>> However, I have not received any reply so far!  
> >>>>> regards//per  
> >>>>>  
> >>>>> Per Wiklund  
> >>>>> CEO  
> >>>>> Scint-X AB  
> >>>>> Electrum  
> >>>>> Isafjordsgatan 22, B5  
> >>>>> SE-164 40 Kista  
> >>>>> Sweden  
> >>>>>  
> >>>>> phone: +46701 110 651  
> >>>>> [www.scint-x.com](http://www.scint-x.com)  
> >>>>>  
> >>>>>  
> >>>>> Antonino Miceli skrev:  
> >>>>> > >>>>>> Hi Per,  
> >>>>>>  
> >>>>>> Thanks for the information.  
> >>>>>>  
> >>>>>> Have you heard anything from Brian at Fairchild?  
> >>>>>>  
> >>>>>> Cheers,  
> >>>>>> Nino  
> >>>>>>  
> >>>>>> per wiklund wrote:  
> >>>>>> > >>>>>>> hi Nino,  
> >>>>>>> please find some answers to your latest questions from  
> Vosskühler!>>>>>>> best regards//per  
> >>>>>>>  
> >>>>>>>  
> >>>>>>> -----  
> -----  
> >>>>>>>  
> >>>>>>>  
> >>>>>>> Subject:  
> >>>>>>> AW: questions from Argonne Labs via scint-x  
> >>>>>>> From:  
> >>>>>>> Jürgen Vosskühler <[jv@vdsvoosk.de](mailto:jv@vdsvoosk.de)>  
> >>>>>>> Date:  
> >>>>>>> Mon, 8 Feb 2010 10:56:00 +0100  
> >>>>>>> To:  
> >>>>>>> "'per wiklund'" <[per.wiklund@scint-x.com](mailto:per.wiklund@scint-x.com)>  
> >>>>>>>  
> >>>>>>> To:  
> >>>>>>> "'per wiklund'" <[per.wiklund@scint-x.com](mailto:per.wiklund@scint-x.com)>  
> >>>>>>>  
> >>>>>>> Dear Mr. Wiklund,  
> >>>>>>>  
> >>>>>>> > >>>>>>>  
> >>>>>>> Regarding your first question please note that the read  
> out  
> >>>>>>> rate and speed is fixed and needs to be determined  
> before  
> >>>>>>> delivery.  
> >>>>>>>  
> >>>>>>> > >>>>>>>  
> >>>>>>> With regard to your second question please find

> enclosed the  
> >>>>>> measurement of the dark current noise in LSB depending  
> on the  
> >>>>>> exposure time.  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> The dark current noise of the slow COOL-11000XR version  
> is less  
> >>>>>> than 4 LSB at short exposure times.  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> Best regards,  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> Jürgen Vosskühler  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> Dipl.-Ing. Juergen Vosskuehler  
> >>>>>>  
> >>>>>> Managing Director  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> \_\_\_\_\_  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> VDS Vosskuehler GmbH  
> >>>>>>  
> >>>>>> Weisse Breite 7  
> >>>>>>  
> >>>>>> D-49084 Osnabrueck  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> Internet: <http://www.vdsvossk.de>  
> >>>>>>  
> >>>>>> eMail: [JV@vdsvossk.de](mailto:JV@vdsvossk.de)  
> >>>>>>  
> >>>>>> eMail: [vds@vdsvossk.de](mailto:vds@vdsvossk.de)  
> >>>>>>  
> >>>>>> Tel.: +49 (0)541 / 80084-0  
> >>>>>>  
> >>>>>> Fax: +49 (0)541 / 80084-10  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> Geschaeftsfuehrer: Dipl.-Ing. Juergen Vosskuehler  
> >>>>>>  
> >>>>>> Gerichtsstand: Amtsgericht Osnabrueck HRB 16430  
> >>>>>>  
> >>>>>> VAT-Reg.No.: DE 117647918  
> >>>>>>  
> >>>>>> \_\_\_\_\_  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> Diese eMail und beiliegende Dokumente koennen  
> vertrauliche  
> >>>>>> Informationen enthalten.  
> >>>>>>  
> >>>>>> Wenn Sie nicht der Adressat sind, sind Sie nicht zur  
> Verwendung  
> >>>>>> der enthaltenen Informationen berechtigt.  
> >>>>>>  
> >>>>>> Bitte benachrichtigen Sie uns sofort ueber den  
> irrtuemlichen  
> >>>>>> Zugang.  
> >>>>>>  
> >>>>>> > >>>>>>

> >>>>>> This eMail and attached documents can contain  
> confidential  
> >>>>>> information.  
> >>>>>>  
> >>>>>> If you are not the addressee, you are not entitled to  
> the use  
> >>>>>> of the contained information.  
> >>>>>>  
> >>>>>> Please inform us immediately about the mistaken  
> >>>>>> reception.-----Ursprüngliche Nachricht-----  
> >>>>>> Von: per wiklund [<mailto:per.wiklund@scint-x.com>]  
> >>>>>> Gesendet: Mittwoch, 3. Februar 2010 16:32  
> >>>>>> An: Jürgen Vosskühler  
> >>>>>> Betreff: questions from Argonne Labs via scint-x  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> hello Jürgen,  
> >>>>>>  
> >>>>>> may I trouble you with some more questions from Mr.  
> Miceli at  
> >>>>>> Argonne  
> >>>>>>  
> >>>>>> Labs. I quote:  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> "Just to clarify, can the camera operate in both high  
> and low  
> >>>>>> read out  
> >>>>>>  
> >>>>>> rates? Is the readout speed programmable via software?  
> Or is it  
> >>>>>> either or?  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> Also, did Vosskühler give you any indication on what  
> the long  
> >>>>>> exposure  
> >>>>>>  
> >>>>>> time is? They do not have dark current (level and  
> noise) versus  
> >>>>>> exposure  
> >>>>>>  
> >>>>>> time? "  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> I hope the questions are clear to you.....  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> Thanks and regards//per  
> >>>>>>  
> >>>>>> > >>>>>>  
> >>>>>> --  
> >>>>>>  
> >>>>>> Per Wiklund  
> >>>>>>  
> >>>>>> CEO  
> >>>>>>  
> >>>>>> Scint-X AB  
> >>>>>>  
> >>>>>> Electrum  
> >>>>>>  
> >>>>>> Isafjordsgatan 22, B5  
> >>>>>>  
> >>>>>> SE-164 40 Kista  
> >>>>>>  
> >>>>>> Sweden  
> >>>>>>

```
> >>>>>>> > >>>>>>>
> >>>>>>> phone: +46701 110 651
> >>>>>>>
> >>>>>>> www.scint-x.com
> >>>>>>>
> >>>>>>> > >>>>>>> > >>>>> >
>>>> > >>>
> >>>
> >>> > >
> >
> >
> >
```