Atbildes uz Piegādātāja jautājumiem (saņemti elektroniski 24.04.2018.)

Question 1.

3.5/3.5 "variable slit system"

- very and each separate x-ray optics component does not have absolute influence to the final result, and what matters is angular accuracy and resolution expressed in FWHM, what we can measure using standard material.

Therefore, we ask to eliminate this requirement, accepting fixed variable slit system, or make any test sample run for data comparison.

Answer:

The variable incident slit allows to keep the area illuminated by X-rays constant over a wide range of diffraction angles. That helps to avoid parasitic diffraction/scattering from sample holder at low angles and gives highest possible intensities of diffraction peaks at higher diffraction angles within one scan. Variable divergence slit provides higher diffracted intensity at high 2θ angle. The fixed divergence slit allows to keep X-rays irradiated volume constant, that provides constant intensity of diffraction pattern. So hybrid incident slit system that includes two types of divergence slit provides user both important advantages of fixed and variable divergence slits. Due to the above considerations, the requirement will not be changed.

Atbilde:

Mainīga ieejas sprauga ļauj iegūt nemainīgu apstaroto parauga laukumu plašā rentgena staru krišanas diapazonā. Tas palīdz izvairīties no parazītiskas difrakcijas/izkliedes no parauga turētāja pie maziem leņķiem un ļauj sasniegt augstāku difrakcijas pīķu intensitāti pie lieliem leņķiem viena skenējuma ietvaros. Mainīga diverģences sprauga ļauj sasniegt augstāku difrakcijas intensitāti pie liela 2θ leņķa. Fiksēta diverģences sprauga ļauj iegūt nemainīgu apstarotā parauga tilpumu, kas savukārt nodrošina nemainīgu difrakcijas ainas intensitāti. Hibrīdas ieejas spraugas sitēma, kas apvieno abu tipu diverģences spraugas, sniedz lietotājam priekšrocības, kuras nodrošina gan mainīga, gan fiksēta diverģences spraugas. Ņemot vērā augstāk izklāstītos apsvērumus prasība netiks mainīta.

Question 2.

4.2 "…each strip not less than 20 mm…"

- length of stripes (channels) is not functionally important, but angular coverage, resolution, efficiency of x-ray absorption, etc;

Therefore, we ask to eliminate this requirement, or decrease the required number to 16 mm, or make any test sample run for data comparison;

Answer:

Due to divergence of X-rays, both horizontal and vertical size of detector is important. By reducing the length of indicator strip by 20%, the effective area of sensor will decrease by 20 % as well, which is not acceptable. It is important to have a greater effective area of sensor.

Due to the above considerations, the requirement will not be changed.

Atbilde:

Ņemot vērā, ka rentgenstari pakļauti diverģencei, gan horizontālais, gan vertikālais detektora izmērs ir svarīgi. Samazinot indikatora sloksnes garumu par 20%, sensora laukums arī samazināsies par 20%, kas nav pieņemami. Ir svarīgi salabāt pēc iespējas lielāku sensora efektīvo laukumu. Ņemot vērā augstāk izklāstītos apsvērumus prasība netiks mainīta.

Question 3.

6.1-6.2

- Please explain what number of sample holders required, because they differ in columns 2 and 4. Would it be enough to supply 10 samples of each type (6.1 and 6.2)?

Answer:

It is requested to provide at least 20 (twenty) samples plates of each type (6.1 and 6.2)

Atbilde:

Tiek prasīts piegādāt vismaz 20 (divdesmit) katra tipa (6.1 and 6.2) parauga turētājus.

Question 4.

5.1. "X-ray generator must be located inside the complete-airtight cabinet"

- Please eliminate this requirement, because normally X-Ray generators are not placed in air-tight cabinets. Or explain your specific application/need;

Answer:

If the cabinet of X-ray generator is designed as complete-enclosed, the amounts of X-ray which may leak out are minimized as possible. Since the health and security of our personnel and students is one of our priorities, this requirement is important.

At the same time in specification instead of term "complete-airtight" can be used the term "completely-closed" since hermetic closing is not necessary.

Atbilde:

Ja rentgenstaru ģeneratora korpuss ir veidots kā cieši noslēgts, tad tiek samazināta iespējamā rentgenstaru noplūde (izstarošana ārpus korpusa). Tā kā viena no mūsu prioritātēm ir personāla un studentu drošība, šī ir svarīga prasība.

Tajā pašā laikā specifikācijā termina "pilnīgi hermētiski noslēgts korpuss" vietā var izmantot terminu "pilnīgi cieši noslēgts korpuss", jo korpusu vakuumējoša hermetizācija nav nepieciešama.

Question 5.

7.1 „Computer must be provided with at least 64 bit processor, Windows 10 system, keyboard, mouse, monitor with at least 24"diagonal"

- Would it be acceptable, if processing computer with Windows 8 and 15"LCD screen, fully capable of performing required data analysis tasks, are integrated within XRD device, drastically saving table/working space?

Answer:

Configuration with separately computer on table near the instrument allows to process experiment as well as to work on data analysis and report preparation. In this configuration also the computer upgrade, replacement and repairs can be provided easier and in a more cost efficient way.

Since the MS Windows 8 mainstream support ends in 2018, it is acceptable to provide MS Windows 10 software for the instrument.

Due to the above considerations, the requirement will not be changed.

Atbilde:

Konfigurācija ar atsevišķi uz galda izvietotu datoru ļauj gan vadīt eksperimentu, gan strādāt pie datu analīzes un atskaišu gatavošanas. Šāda konfigurācija ļauj datora remontu, nomaiņu, atjaunināšanu veikt vienkāršāk un lētāk.

Tā kā MS Windows 8 pamata atbalsts ir beidzies 2018 gadā, pieņemams ir, ja tiek piegādāta MS Windows 10 programatūra instrumenta vadībai.

Ņemot vērā augstāk izklāstītos apsvērumus prasība netiks mainīta.

Question 6.

8.5 „Database PDF 4+ or analogical must be included in delivery"

- Please explain if COD (http://www.crystallography.net/cod/) can be treated as "analogical" database and supplied with analysis software? If not, what exactly ICDD PDF (http://www.icdd.com/products/) database do you need?

Answer: As analogue or equal data base will be treated the data base that is compatible with analysis software provided with instrument. Due to this, COD can be as option to be delivered and treated as "analogical", as far as it is compatible with the instrument software.

Atbilde: Kā analoga vai ekvivalenta datu bāze tiks uzskatīta datu bāze, kas ir savietojama ar instrumenta kontroles un datu analīzes programatūru. Ņemot šo vērā, COD var būt kā variants, kas tiek izskatīts kā "analogs", ja tā ir savietojama ar instrumenta programatūru.