



X-ray Scattering MEASUREMENT PROPOSAL Multi-user Equipment



Fill in this form and send it to scatter@if.usp.br. After the proposal evaluation, our staff will contact you for schedule your measurements and to give you further instructions.
If your interest is for service or purchase of machine time, our staff will provide information on costs and payments.

USERS

Principal Researcher

Name:	<input type="text"/>	User number:	<input type="text"/>
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Other users. List below the students, technicians and collaborators who will participate directly in the proposed measurements.

Name:	<input type="text"/>		
Position:	<input type="text"/>	Passport no.:	<input type="text"/>
E-mail:	<input type="text"/>	Phone no.:	<input type="text"/>

Name:	<input type="text"/>		
Position:	<input type="text"/>	Passport no.:	<input type="text"/>
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E-mail:	<input type="text"/>	Phone no.:	<input type="text"/>

Name:	<input type="text"/>		
Position:	<input type="text"/>	Passport no.:	<input type="text"/>
E-mail:	<input type="text"/>	Phone no.:	<input type="text"/>

RESEARCH PROJECT

Title:

Abstract (max 500 characters):

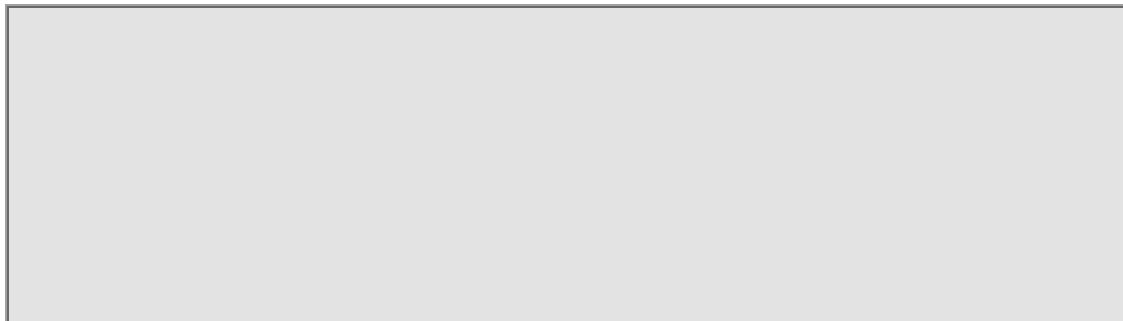
SAMPLES

Number of samples:

Information and characteristics. For example, sample identification, samples' physical states and chemical compositions, solid sample sizes etc.

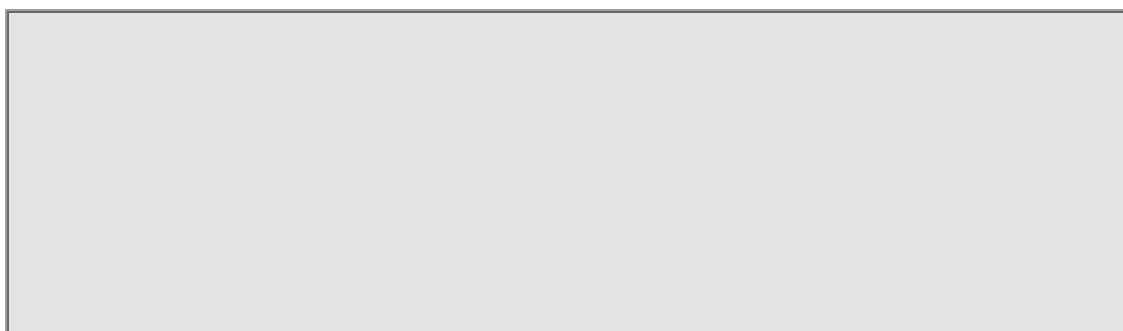
Background. For samples in solution, report the solvents or buffer solutions of each sample listed above. For solid samples or gels, report the matrices (e.g., polymer matrix) for each sample, as well as whether the matrices should be used for background subtraction.

Attention! The users must provide the solvents, buffer solutions or solid or gel matrices together with their samples.

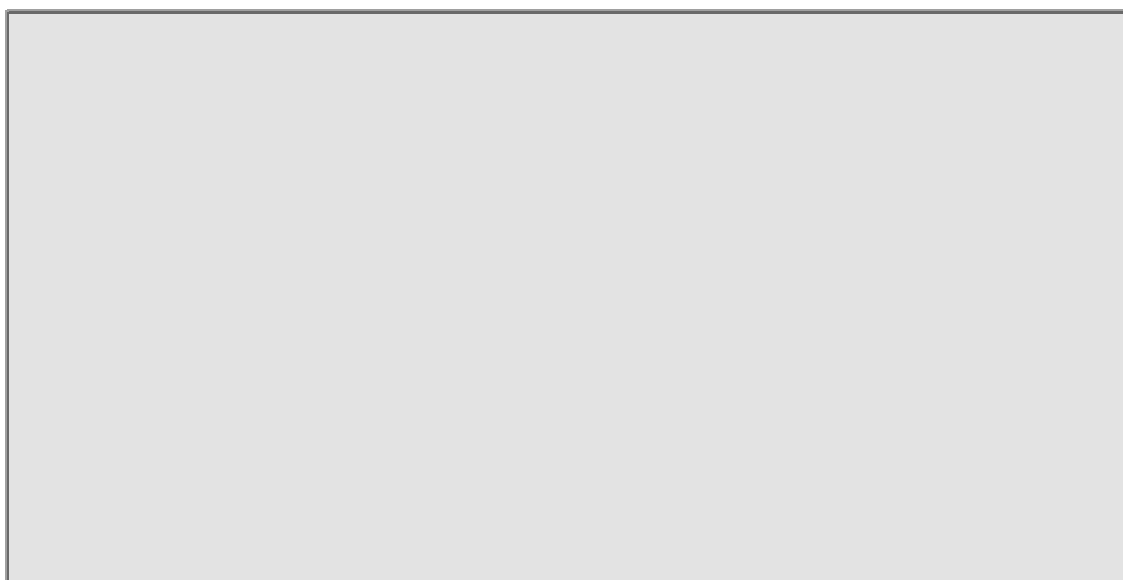


Temperature control. Available only for liquid samples between 3 and 80 °C. Report the measurement temperatures for each sample listed above. In case of temperature variation, inform if it induces irreversible transformations in the samples.

Note: other samples will be measured at room temperature of 23 ± 1 °C.



Additional information. Use the space below for additional samples' information. For example, about proper handling and disposal of samples; safety, toxicity and risks of chemical, biological or radioactive materials present in the samples; storage of samples under suitable conditions and so on.



INSTRUMENTAL CONFIGURATION

Samples should be measured in: air or vacuum.

X-ray wavelength and angular ranges. By default, radiation generated by copper source, with wavelength λ (Cu $K\alpha$) = 1.54 Å will be used. Chromium sources, λ (Cr $K\alpha$) = 2.29 Å, or molybdenum, λ (Mo $K\alpha$) = 0.71 Å, are also available.

Select the radiation sources and angular ranges you want directly in the following tables.

Note: Distance changes require at least an additional half shift for change, alignment, and calibration.

In the tables below, 2θ is the scattering angle, in degrees; L is the approximate sample-to-detector distance, in meters; q is the modulus of the scattering vector $q = (4\pi/\lambda) \cdot \sin(\theta)$, in Å^{-1} ; $D = \pi/q$ is an estimate of the minimum and maximum measurable diameters for a given interval of q , in nm.

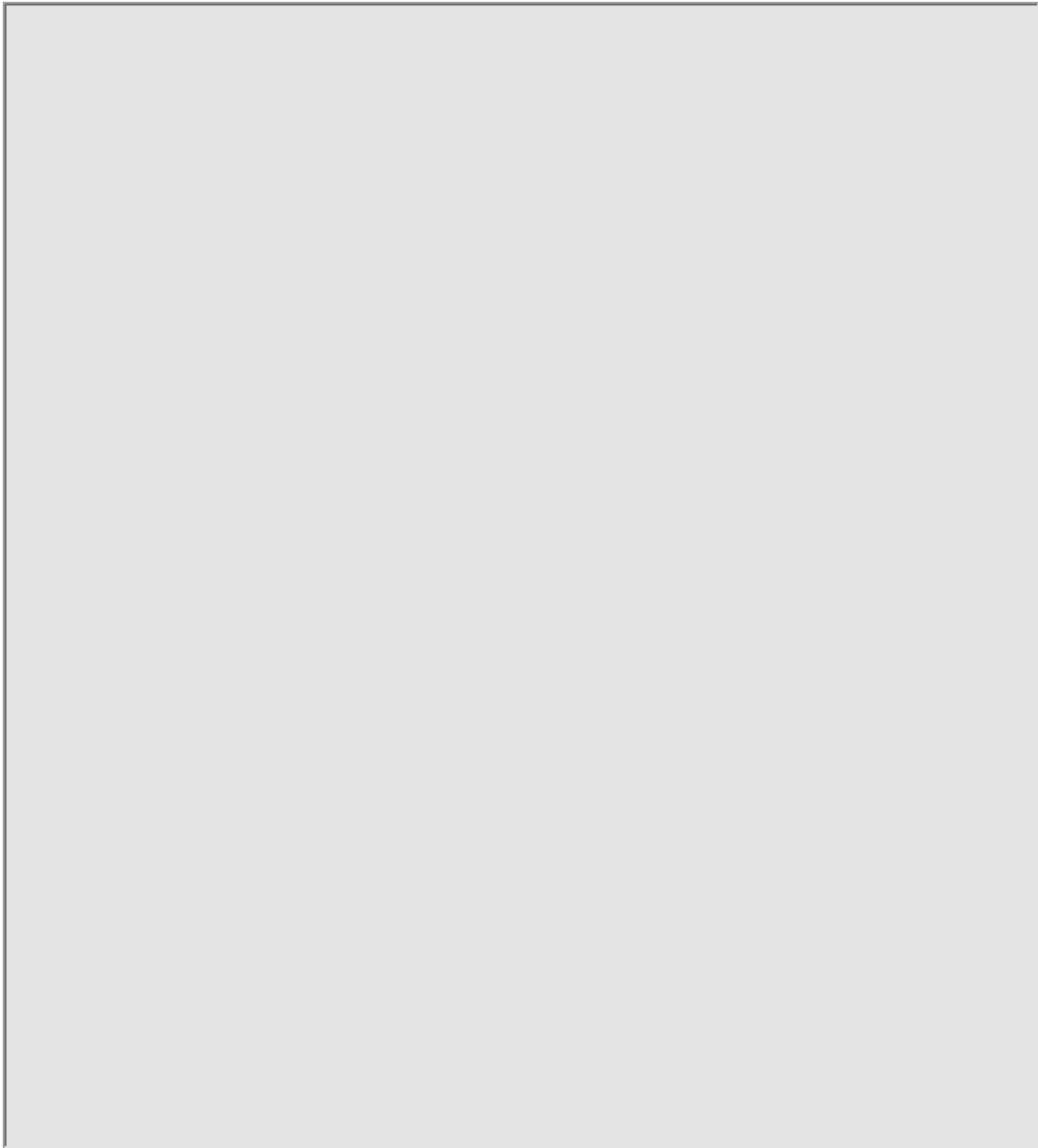
$\lambda(\text{Cu } K\alpha) = 1.54 \text{ \AA}$				
Choose	L (m)	2θ (°)	q (Å^{-1})	D (m)
<input type="checkbox"/>	-	15.0 – 45.0	1.1 – 3.1	-
<input type="checkbox"/>	0.12	1.22 – 38.8	0.087 – 2.705	0.1 – 3.6
<input type="checkbox"/>	0.45	0.33 – 12.1	0.023 – 0.858	0.4 – 13.6
<input type="checkbox"/>	1.20	0.12 – 4.59	0.009 – 0.327	1.0 – 36.1
<input type="checkbox"/>	2.50	0.06 – 2.21	0.004 – 0.157	2.0 – 75.3
<input type="checkbox"/>	3.80	0.04 – 1.45	0.003 – 0.103	3.0 – 114.4
<input type="checkbox"/>	5.10	0.03 – 1.08	0.002 – 0.077	4.1 – 153.6
<input type="checkbox"/>	6.45	0.02 – 0.85	0.002 – 0.061	5.2 – 194.5

$\lambda(\text{Cr } K\alpha) = 2.29 \text{ \AA}$				
Choose	L (m)	2θ (°)	q (Å^{-1})	D (nm)
<input type="checkbox"/>	0.12	1.22 – 38.8	0,058 – 1,821	0,2 – 5,4
<input type="checkbox"/>	0.45	0.33 – 12.1	0.016 – 0.578	0.5 – 20.1
<input type="checkbox"/>	1.20	0.12 – 4.59	0.006 – 0.220	1.4 – 53.7
<input type="checkbox"/>	2.50	0.06 – 2.21	0.003 – 0.106	3.0 – 111.9
<input type="checkbox"/>	3.80	0.04 – 1.45	0.002 – 0.070	4.5 – 170.0
<input type="checkbox"/>	5.10	0.03 – 1.08	0.001 – 0.052	6.1 – 228.2
<input type="checkbox"/>	6.45	0.02 – 0.85	0.001 – 0.041	7.7 – 289.1

$\lambda(\text{Mo } K\alpha) = 0.71 \text{ \AA}$				
Choose	L (m)	2θ (°)	q (Å^{-1})	D (nm)
<input type="checkbox"/>	0.12	1.22 – 38.8	0.189 – 5.869	0.1 – 1.7
<input type="checkbox"/>	0.45	0.33 – 12.1	0.050 – 1.862	0.2 – 6.2
<input type="checkbox"/>	1.20	0.12 – 4.59	0.019 – 0.708	0.4 – 16.7
<input type="checkbox"/>	2.50	0.06 – 2.21	0.009 – 0.341	0.9 – 34.7
<input type="checkbox"/>	3.80	0.04 – 1.45	0.006 – 0.224	1.4 – 52.8
<input type="checkbox"/>	5.10	0.03 – 1.08	0.004 – 0.167	1.9 – 70.8
<input type="checkbox"/>	6.45	0.02 – 0.85	0.004 – 0.132	2.4 – 89.7

ADDITIONAL INFORMATION

Use the space below for additional information about this proposal.



FOR INTERNAL USE ONLY

Responsible technicians:

Result folders:

Measurement dates:

Any questions should be directed to scatter@if.usp.br.

V 2.0