***Guidelines for Writing a Beamtime Proposal***

Task: Write a proposal for beamtime at a large-scale research facility (neutron, muon, synchrotron, FEL)

Format (this is always very strict and you should follow exactly the given instructions!):

* Max 3 pages of A4 paper size, including figures and references
* Font: Arial, size 11 pt
* 2.0 cm margins for all sides

This generic template is very similar to a real proposal with a “standardized” template and subsections. Please note that “in real life” the template differs slightly between different sources. When you submit a real proposal to a facility you should ALWAYS use the latest supplied template from the facility in question (otherwise you risk getting rejected due to a technicality). Follow the instructions (font, margins, etc.) carefully and make sure you keep the internal structure (subsections) in the order specified. Also, do not invent your own style e.g. changing from 1 column to 2 column formatting. The committee will prefer that all proposals follows the same “flow”.

*General guideline for the proposal: Be brief, clear and emphasize importance of the proposed experiment as well as clearly show feasibility (i.e. motivate why you should be given beamtime at a very expensive large-scale research facility). Each beamtime committee member will read a lot of proposals and cannot spend too much time on each one. They cannot spend too much time “decoding your proposal”. Figures and figure captions should not be too complicated and readable even when printed on paper. Remove all the text above the “Title of Proposal” below (and the RELAX header) as well as the text under the subsections, simply keep the blue subsections together with your own original text.*

**“Title of Proposal”**

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**2.1 Scientific Background**

*“Set the scene” by giving a short introduction to the scientific field you aim to address. Be brief (not more than 0.5 page) and focus on why this is an interesting and important field. Only use key references and also emphasize if you and/or your group have made prior important contributions/publications to this field.*

**2.2 Goals of the Proposed Experiment**

*Describe what you want to do in the proposed experiment and WHY this is important (i.e. the purpose of the experiment). Emphasize why you specifically need, e.g., neutron scattering (and then why X-ray scattering is not feasible), etc. depending on your selected probe. Also highlight how the proposed technique will be useful, potentially why the specific source/instrument is chosen over others (“this is the only place in the world we can do this because…”). A schematic figure might for some cases be very useful to add in this section, but it depends on what type of experiment you are requesting.*

**2.3 Preliminary Results**

*Prior to submitting an official proposal, it is common that your group (or someone else) has already performed preliminary test experiments using same or similar techniques on the sample in question (or very similar sample). This is an important piece of information since it will give a strong indication for the feasibility of the proposed experiment. Usually this will require showing some data in a figure or giving reference if the results are published. Please be clear and honest if the plots you show are from your specific sample, or it is simply a plot you have acquired from the literature (e.g. an article published by someone outside your collaboration, then you need to give a CLEAR reference to such work).*

**2.4 Details Related to the Sample(s)**

*This subsection handles details around your sample. In a real proposal part of this information is usually (but not always) given in a separate online form. Information should include e.g.:*

* *Sample properties (mass, powder/crystal…)*
* *Is the sample (with the specified mass) already available or under synthesis. Be honest and simply inform the committee about the actual situation.*
* *Pre-characterizations performed on your sample (to show properties and quality i.e. figure or reference will be needed!)*
* *Sample mounting for your proposed experiment*
* *Sample environment needed (cryostat, furnace, in situ cell, pressure cell, magnet, …)*

**2.5 Detailed Experimental Plan & Beamtime Estimate**

*Describe in detail which experiment will be performed in practice e.g. “temperature scans from T1 to T2 in steps of ΔT for samples #1 and #2”. Try to estimate the needed statistics/measurement time (from experience or from discussions with instrument responsible). Give a total estimate for the needed measurement time + minimal setup time. Sometimes it is favorable to write part of this section as a bullet list, e.g.:*

1. *15 Temperature points × 2 samples × 2 hours = 60 hours*
2. *3 Temperature points × 2 samples × 2 magnetic fields × 2 hours = 24 hours*
3. *Adding 5 hours for initial cool-down and sample changes*

***TOTAL*** *= 60 +24 +5 hours = 89 hours = 3.7 days*

*Hence, we kindly request* ***4 days of beamtime*** *at the XXX instrument of the YYY facility*

**2.6 Additional Information**

*This could e.g. include:*

* *Safety Considerations*
* *Funding sources for the project*
* *Briefly describe any discussions you might have had with the beamline scientist. It is highly recommended to contact the beamline responsible 1-2 weeks prior to submitting a proposal to discuss feasibility, counting time, etc. It is especially important to avoid that your proposal is unfeasible due to e.g. sample mass, accessible Q-range, requested sample environment etc. (this will also be checked by beamline staff after your submission and prior to the committee evaluation, but then it is too late).*
* *If this proposal is part of a PhD student project, and especially one that should finish very soon, you can add a note about this. It will not make a very bad proposal pass, but if you are on the borderline, this could help you across the cut-off.*

**2.7 References**

*List relevant references (scientific background, previous results and sample characterizations etc.)*

*Guideline: 5-10 references is more than enough!*

*Final tip for MS-WORD Documents:*

*If your template is an MS-WORD template, before you add any figures into the document. Go to the top menu*

*“File/Options/Advanced/Image Size and Quality/*

*Default resolution is usually set to 220 ppi. Change this setting to “High Fidelity”. In this way your figures will look much better!*