

**TITLE and type of activity (Networking, Joint Research development):
MULTIPLE INTERESTS**

Leading beneficiary: Laboratoire Léon Brillouin, CEA-CNRS

Partners: Université Paris Saclay, Université P&M Curie, Université Paris 7, Université P Sabatier

ENS paris, ESPCI, Université Rennes 1, Université Montpellier, Orléans...

Estimated budget (in person months, other direct cost) and tentative distribution per partner

Abstract of your innovative activity: *(please make sure that you mention the following points)*

1. State of the Art,
 - Sample environments (levitation, high magnetic field, coupled NMR&Neutron measurements)
 - Synchronized and desynchronized pulsed experiments (magnetic or electric field, pressure waves, flow cells, ...)
 - Developments to obtain sub microsec time resolution
 - Development of polarisation ToF on Spin Echo
 - Data processing and viewing of single crystals TOF spectrometer.
 - Comparison of Hot source diffraction experiments to Spallation source ones.
 - Development of low resolution TOF experiment for ultra low reflectivity measurements »
2. What is new? Why should it be done on a European consortium level (synergies)?

Never done yet, a lot of industrial applications (energy, health,...)
3. How could your activity be connected with other methods and techniques (outside the neutrons community)?

This is exactly the aim of sample environment, to open the fields and integrate other scientific communities
4. Is there any link with national initiatives/projects (e.g. national data initiatives, but also European roadmaps etc)?

Within the French road map and possible ESS installations
5. How is the user community involved in your activity? Benefit for the user (eventually for any specific science community?)

The development of such sample environment requires the contribution of external labs already specialist in their own domain.