

# Neutron Fundamentals 2017

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## Goal:

To investigate the workings of various neutron detectors.

## Method:

Groups of 2 will research one particular type of neutron detector and prepare a short report (maximum 10 pages including figures, URKUND!) and a short presentation (10 minutes + 5 for questions) presenting a concise overview of the detector they have chosen.

## Timeline:

- 2017-01-30: This presentation.
- 2017-01-30: Choice of groups and choice of neutron detector or source to be completed and details emailed to [kevin.fissum@nuclear.lu.se](mailto:kevin.fissum@nuclear.lu.se) by 23:59.
- 2017-02-09: Presentations – 10:00 in B113.
- 2017-02-17: Reports by 23:59. Submit as .pdf as above.

## Possible Project Topics (not exhaustive):

<b>Detector type</b>	<b>neutrons</b>	<b>type</b>
<b>B-based</b>	meV	reaction
<b><sup>3</sup>He-based/<sup>4</sup>He-based</b>	meV/MeV	reaction
<b><sup>6</sup>Li-based</b>	meV	reaction
<b>Fission-based</b>	meV	reaction
<b>scintillator-based</b>	MeV	scattering
<b>dosimeters</b>	all	
<b>hybrid</b>	all	
<b>other (check first)</b>		

## Report Guidelines:

Pay particular attention to the following (if applicable):

1. Historical overview
2. Underlying physical concepts / working principles
3. Practical details and applications / uses
4. Operational details and advantages / disadvantages
5. Additional comments