Beitrag ID: **119** Typ: **Poster**

# Using Light to see Scattered Neutrons: an efficient technology applied to neutron scattering

*Dienstag, 17. September 2024 22:40 (20 Minuten)*

Since first years of exploitation in 1960-70, neutron scattering has emerged as a unique and non-destructive means to probing inside matter properties at the nanometer length scales. Because the neutron production is scarce and expensive, the detection has to be extremely efficient. We take advantage of the recent improvements of optical sensors in photon detection, to develop a position-sensitive neutron detector combining high detection efficiency and high spatial resolution. This 2D-neutron detector displays exceptional performances: Wide reciprocal space observation, spatial resolution lower than 0.5mm, low detection threshold (<1 neutron/cm2/s), reduced dimensions and a permanent upgrading. We underline the advantage of associating an accurate wavelength selection and point out the possibility to operate in time of flight mode. This type of instruments certainly foreshadows the future neutron scattering landscape, in particular in the view of future spallation sources.
P. Baroni, L. Noirez, American Journal of Applied Sciences,11(9):1558-1565 DOI: 10.3844/ajassp.2014.1558.1565.

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**Sitzung Einordnung:** Mounting Posters, Beer and light Dinner

**Track Klassifizierung:** Instrumentation & Data Management