Polarization measurements in neutron imaging

While neutron imaging is a well-established technique for investigations of inner structures and processes in materials, complex systems, and devices, the utilization of polarized neutron beams to visualize magnetic phenomena has been introduced only about a decade ago. In contrast to neutron scattering studies, where the interaction of the neutron's magnetic moment with magnetic states of matter has been exploited for a long time, the direct visualization of magnetic fields in neutron imaging is a relatively new field and is still developing. Here, we give an overview of the status and provide approaches to visualizing magnetic fields with polarized neutrons, together with a report on the latest developments in attempting to record neutron tomographies for 3D reconstructions of magnetic vector fields.
Scopus rating (2011): CiteScore 2.36 SJR 1.266 SNIP 1.399
Web of Science (2011): Impact factor 2.544
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.292 SNIP 1.28
Web of Science (2010): Impact factor 2.109
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.269 SNIP 1.327
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.427 SNIP 1.549
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 1.38 SNIP 1.612
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 1.406 SNIP 1.742
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 1.216 SNIP 1.455
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 1.133 SNIP 1.438
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 0.912 SNIP 1.221
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 1.033 SNIP 1.233
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 0.925 SNIP 1.212
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 0.842 SNIP 1.125
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 0.89 SNIP 1.264
Original language: English
Keywords: Neutron imaging, Polarized neutrons, Magnetism, Neutron science, Neutron instrumentation
DOIs:
10.1088/1361-6463/aafa5e
Source: FindIt
Source-ID: 2442601355
Research output: Research - peer-review › Journal article – Annual report year: 2019