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| Title:                  | Disorder in Co-Cu granular alloys studied by $^{59}\text{Co}$ NMR   |
| Authors:                | Chowdhury, Rajeswari Roy (/jspui/browse?type=author&value=Chowdhury%2C+Rajeswari+Roy)   |
| Keywords:               | Nuclear magnetic resonance<br>Nanogranular alloys<br>fcc and hcp phases   |
| Issue Date:             | 2019  |
| Publisher:              | Elsevier  |
| Citation:               | Journal of Magnetism and Magnetic Materials, 471, pp. 355-358.  |
| Abstract:               | We have performed $^{59}\text{Co}$ zero-field nuclear magnetic resonance (NMR) experiment at 4 K on $\text{Co}_{1-x}\text{Cu}_x$ ( $x = 0.10, 0.32$ and $0.76$ ) nanogranular alloys. The NMR signal arises from Co rich ferromagnetic clusters formed within the Cu matrix. The analysis of NMR spectra shows that the resonance peaks arise from both fcc and hcp phases of Co. However, Co nuclei experience magnetic hyperfine field from Co only environment as well as other environments in which nearest-neighbor (NN) Co atoms are replaced by Cu. Assuming that these two environments constitute the core and the shell of the Co clusters, it is estimated using previous magnetization measurements that the contribution of core dominates in the ferromagnetism of the particles though it occupies only about 20% of the volume of Co clusters even for high Co containing alloys |
| Description:            | Only IISERM authors are available in the record.  |
| URI:                    | <a href="https://www.sciencedirect.com/science/article/pii/S0304885317335679">https://www.sciencedirect.com/science/article/pii/S0304885317335679</a><br>( <a href="https://www.sciencedirect.com/science/article/pii/S0304885317335679">https://www.sciencedirect.com/science/article/pii/S0304885317335679</a> )<br><a href="http://hdl.handle.net/123456789/2246">http://hdl.handle.net/123456789/2246</a> ( <a href="http://hdl.handle.net/123456789/2246">http://hdl.handle.net/123456789/2246</a> )   |
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