

## Hydrogen Absorption in Gd Thin Films

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In this contribution we have studied an initial hydrogen absorption in Gd thin films using *in-situ* X-ray photoelectron spectroscopy (XPS) and *ex-situ* standard X-ray diffraction. As an initial hydrogen absorption indicator we have used broadening of the Gd-4*f* peak. The Gd thin films with a thickness of 200 nm were deposited at room temperature (RT) using UHV RF magnetron sputtering. As a substrate we have used naturally oxidised Si(100) wafers with 20 nm - Pd buffer layer. Furthermore, hydrogen absorption kinetics under a pressure of 100 mbar in Pd covered 200 nm Gd thin film was studied at RT using four-point resistivity measurements.

topics: 75.70.-i, 68.55.-a

This article was originally published on March 2018 with incorrect fragment of the text of the third paragraph of the introduction containing. The correct fragment of this paragraph is shown below:

It was found that exposure to low amounts of hydrogen (1–2 L) on Gd films already leads to adsorption. Higher amounts of hydrogen (15 L) caused formation of GdH<sub>2</sub> phase and visible morphological changes of thin film surface due to plastic deformations [10].

The authors apologize for this error.