

**ON THE INTERPRETATION OF THE ANGULAR  
DEPENDENCE OF FMR/SWR SPECTRA IN  
FERROMAGNETIC THIN FILMS**

**Maciej Kasperski and Henryk Puzzkarski**

Surface Physics Division, Faculty of Physics, Adam Mickiewicz University  
61-614 Poznań, Umultowska 85, Poland

A careful analysis of the reported measurements of the angular dependence of FMR and SWR spectra and their theoretical interpretation leads to the observation that a discrepancy occurs between the theory and the experiment in certain ranges, which tend to be in the vicinity of either the perpendicular or the in-plane configuration of the external magnetic field (with the field perpendicular or parallel to the film plane, respectively). We demonstrate that this discrepancy cannot be eliminated within the model proposed by Smit and Beljers [1] and commonly used in the literature for description of the ferromagnetic resonance in thin films. We hope to propose an adequate modification of this model, which allows to obtain an agreement between the theoretical description and the experimental data in the whole range of angular configuration of the external field. Finally, some resulting remarks on relation between the resonant curves and the mutual orientation of uniaxial thin film anisotropy direction and external magnetic field will be drawn too.

Ref. [1] J. Smit and H. G. Beljers, Philips Res. Rep., 10, 113, 1955.

←————— 13.4 cm —————→

**Subject category :**

3. Magnetic Structure and Dynamics

**Presentation mode :**

poster presentation

**Corresponding author :**

H. Puzzkarski

**Address for correspondence :**

Surface Physics Division, Faculty of Physics, Adam Mickiewicz University,  
61-614 Poznań, Umultowska 85, Poland

**Email address :**

henpusz@amu.edu.pl

9.7 cm