

EVALUATION OF THE SATURATION TERM IN THE MOSSBAUER  
ABSORPTION LINE AREA AND ITS APPLICATIONS.

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ABSTRACT

The Mössbauer absorption line area "A" is expressed as a product of two terms:  $A = AL \cdot ST$ , where "AL" is linearly dependent of the number of resonant nuclei corresponding to the considered absorption line and "ST" is the saturation term for that line. An iterative algorithm to evaluate ST term is developed. The application in Mössbauer Phase Analysis of this method is discussed.

1. INTRODUCTION

The Mössbauer absorption line area is the most important parameter in Mössbauer Phase Analysis (MPA), specially in the measurement of the occupation level of sites for the  $\gamma$ -resonant nuclei in the studied sample.

In this paper we discuss the background of a method elaborated to correct the saturation effects in the Mössbauer absorption line area.

2. THEORY

The area "A" below a Mössbauer absorption spectrum may be expressed as a product of two terms,

$$A = AL \cdot ST \quad (1)$$

The linear term "AL" expresses the area value and could be obtained if the influence of the sample thickness is negligible,