

MAGNETIC HYPERFINE FIELD DISTRIBUTION
IN PYRRHOTITES FROM MÖSSBAUER SPECTROSCOPY

E. Reguera Ruiz, V.I. Nikolaev*, V.S. Rusakov*

National Center for Scientific Research,
P.O. Box 6990, Havana, Cuba

*Faculty of Physics, Moscow State University,
Moscow, USSR

Received 6 February 1991

Accepted 20 February 1991

Mössbauer spectra from intermediate pyrrhotite (Fe_{1-x}S) samples were interpreted according to their hyperfine magnetic field distribution functions at the Fe nuclei in these sulfides. Seven non-equivalent Mössbauer sites for Fe were distinguished by their peak positions in the distribution functions obtained.

INTRODUCTION

The pyrrhotites (Fe_{1-x}S ; $0 \leq x \leq 0.125$) are non-stoichiometric iron monosulfides with a complicated magnetic behavior, mainly due to the iron vacancies distribution in their crystalline structure.

From the industrial point of view, the most attractive application of pyrrhotites is the possibility to use their magnetic properties in the upgrading of economic interest polymetallic ores¹, taking into account that from the thermal decomposition of pyrite (FeS_2)