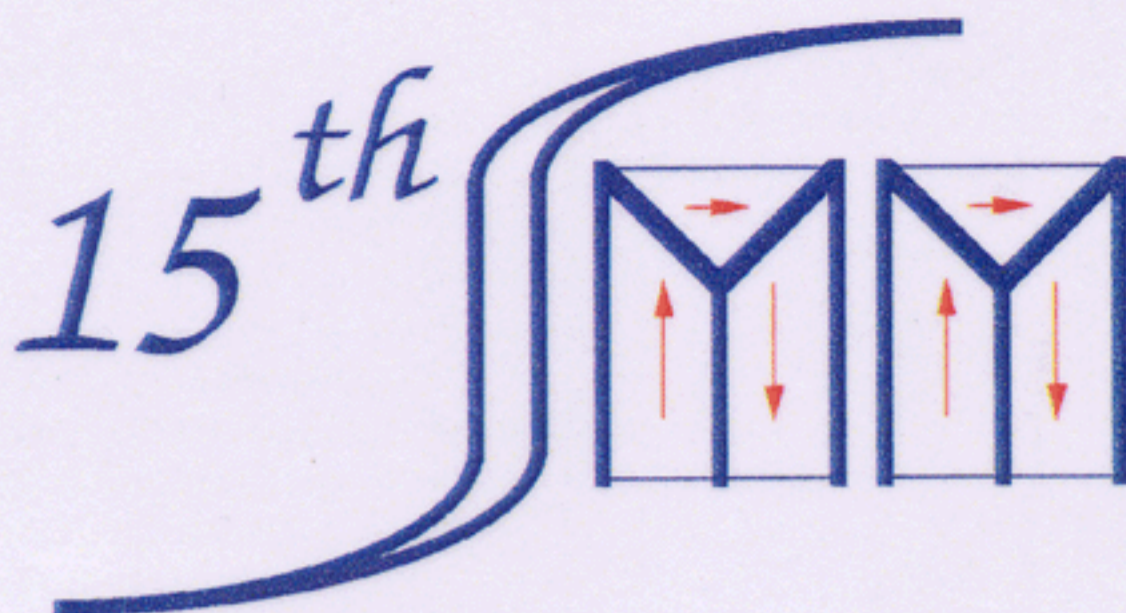


Bilbao, 5-7 September 2001



*Soft Magnetic Materials
Conference*

**ORGANIZED BY THE UNIVERSITY OF THE BASQUE COUNTRY
Universidad del País Vasco / Euskal Herriko Unibertsitatea**

**BOOK
OF
ABSTRACTS**



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Magnetic Properties of ordered Perovskite $\text{Ba}_2\text{FeMoO}_6$

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Magnetic properties have been investigated for ordered perovskite $\text{Ba}_2\text{FeMoO}_6$. Polycrystalline $\text{Ba}_2\text{FeMoO}_6$ (BFMO) has been prepared by solid-state reaction followed by sintering in a stream of 5% H_2/Ar at 1000°C . X-ray powder diffraction pattern for BFMO shows a clean single phase without detectable secondary phases and the high degree of Fe/Mo ordering. The Fe/Mo ordering was estimated to be about 97%. The $\rho(T)$ curve exhibits a metallic behavior with T^2 dependence below the ferromagnetic transition temperature of 312K. The magnetoresistance ratio of BFMO is as large as 23 and 6% with the magnetic field of 0.7T at 20 and 300K, respectively. The saturation magnetization is $3.7 \mu_B/\text{f.u.}$ which is slightly lower than the ideal value of $4\mu_B/\text{f.u.}$. The coercive field decreases with increasing temperature from 60Oe at 20K to 16Oe at room temperature. The magnetization could be interpreted as a mixture of ferromagnetic and paramagnetic components. The paramagnetic component has been found to increase substantially with increasing temperature from 21% at 20K to 55% at room temperature.