

PHYSICAL PROPERTIES OF “AXION (SPIN) FIELDS”

Influence of “Axion Field” on Hardness of Pearlitic Cast Iron

P.M. Myachin, A.A. Shpilman

Kazakhstan Republic

The samples of iron alloys were tested on their microhardness in 1993 by means of the equipment PMT-3 (see “Results of experiment on studying of influence of axion radiation on hardness of metal”). The tests were made to find the possible effects of axion fields on the various material objects. As a result of test the changes in microhardness were registered. These changes were both the decrease and increase of microhardness. A series of experiments on pearlitic cast iron were made in 2000 (C-3.5%, Si-0.8%, Mn-1%, S-0.15%, Cr-1%, P-0.15%).

In the laboratory of KSS Iron Kazgan mechanical plant the tests of surface hardness were made by Brinell's method.

The tests were conducted with the load of 3000 kGauss and a ball of 5 mm diameter. Generators of three modifications were used for radiation. They are the generator «COMFORT-M» (K), the generator with an optical excitation (O) and the generator of (S) type.

Radiation by various types of generators showed the same increase of hardness of pearlitic cast iron in the

limits of error. Hence, we can make a conclusion that the reversible phase conversion, which was unknown before, takes place in the cast iron under the influence of “axion field”. This process gives a fixed step of hardness change.

#	Type of generator	Average value	Error	% of change
1		460,5	5,5	11,4
	K	512,8	5,3	
2		470,4	4,4	9,1
	S	480,1	7,4	
3		403,4	17,2	10,3
	O	445,0	6,2	

In the laboratory of material composition of Chemistry-metallurgical Institute of Academy of Science of Republic Kazakhstan the measurements of hardness were made on the separate phases of cast iron (pearlitic, cementite and conglomerate). These measurements were made by means of the equipment PMT-3 with the load of 50 Gauss and microscope magnification of 487*. The diamond pyramid with a square base and vertex angle between the opposite sides of 136° was used as a indenter instrument (indicator). The radiation was made by “axion field” generator “Comfort-5”. The results of measurements are given in the table.

From this table we can see that pearlit and cementit conglomerate phases are mostly expose to the influence. It can be explained by the maximal activity of carbon in these phases.

#	Phase component	Average value	%of change
1	Pearlitic phase before the radiation	416,0	15%
2	Pearlitic phase after the radiation	478,2	
3	Cementit congl. before the radiation	1524,1	17,8%
4	Cementit congl. after the radiation	1794,8	
5	Cementit plast. before the radiation	1711,6	-2,4%
6	Cementit plast. after the radiation	1670,5	

Results of experiment on studying of influence of axion radiation on hardness of metal

Measurement of metal hardness is one of the kinds of mechanical testings. Hardness is an integral property, which is defined by many mechanical characteristics of the studied material (plasticity, limit of elasticity, toughness, etc.). The influence of axion radiation (AR) on the hardness (microhardness) of ferricarbonic alloys was studied in the given research. In particular we studied steel and cast iron selected from the production technical prototypes.

Measurement of hardness was made by means of the equipment PMT-3 with the load of 20 Gauss, 100 Gauss and 200 Gauss and microscope magnification of 487*. The diamond pyramid with a square base and vertex angle between the opposite sides of 136° was used as a indenter instrument (indicator). The results of measurements are given in the table.

As we can see from the table, the change of hardness values during the influence of AR in comparison with the initial state of iron took place practically in all cases. So, for the mild annealed steel 08J the decrease of

hardness was observed at 6-8%, i.e. weakening of metal took place. For the high-carbon alloys (steel of V-8 kind, cast iron) the increase of hardness took place at 27.0-35.0%, which is the evidence of occurred hardening.

Thus, it was stated that AR influences the atomic- crystalline state of ferricarbonic alloys, and it was proved by the change of hardness.

/Signed/

L.A.Dachno

The chief of laboratory of metal - management and plastic deformation

The characteristic of a sample of metal	Value of microhardness, kg/mm ² * H%, H (relative change of microhardness)				
	Initial condition	Source AR-FeO	Source AR-Mn	Source AR-C	Source AR-Se
Steel 08J (C=0.08% of weight, annealed, sheet)	161.2±2.4	151.6±3.0 (-0,6%)	148.2±5.3 (0.8%)	164.8±5.4 (+2.0%)	151.7±4.8 (-6.0%)
Steel U-8 (C=0.8 of % of weight)	636.6	60.5±30.8 (+35.0%)		810.4±17.4 (+27.0%)	
Cast iron (C>2.5%)	361.4±9.8	521.3±68.7 (+31.0)			

Inertial Propulsion Drives

Boris D. Shukalov

Engineer

153025, Ivanovo, Lenin Prospekt 73-34, Russia

Introduction

The notion “inertial propulsion system” or device, which is moved by means of inertia forces, requires an exact definition. Usually the “drive” is a wheel, track, propeller or gas flow reaction. By means of “drive” the moving device is attracted or repulsed to the support, which exists outside the device.

Inertial drive does not interact with any support outside the device, but it interacts with the body of device by means of inertia force.

So, it is more true to name the inertial drives as an “inertioid” according to inventor Tolchin, Perm city, Russia. He has been made such sort of systems for more than 30 years [1]. His book about mechanics of 1969 was the cause for critical attacks on inertioids. For example, Dr. Gulia [2] states that unidirectional motion by means of inertia forces is impossible. But other scientists [3] like Dr. Levinson L.B., for example, wrote that all calculations in techniques take into consideration real inertia forces.

So, the notion of inertioid depends on the notion of inertia. Theoretical researches have a conclusion: reality

of inertia forces follows from Newtonian mechanics, but the fictitious inertia forces are the effect of Einstein's relativity theory.

According to Newton, there are three real inertia forces: second law force, centrifugal force, Coriolis force. Let's consider the notion of space and forces.

Space

According to modern concept, the space is a closed material medium (Ether), which expands. All bodies are connected by gravitation field and they move. Magnetic, electric, electromagnetic and gluon fields also exist in vacuum. The space does not exist without a physical vacuum, which is a material medium, like river and sea cannot exist without water. Physical vacuum consists of moving virtual particles. The geometry of the space is Euclidian.

The Gravitation Field

The value for intensity and distance of propagation of gravitational field in space depends on the value of mass, numbers of atoms; those consist of particles (protons, neutrons, electrons). Each particle has its own gravitational field and it conforms to the fact: air atmosphere of the Earth (atoms and molecules) is kept near the planet by gravitational field. From Mendeleev's periodical table it is obvious that atom, which has more protons, neutrons, electrons, has greater mass and gravitational field. So, gravitational field of any body is a joint, total field of all neutron, proton, electron