

МОЛОДОЙ

СПЕЦВЫПУСК

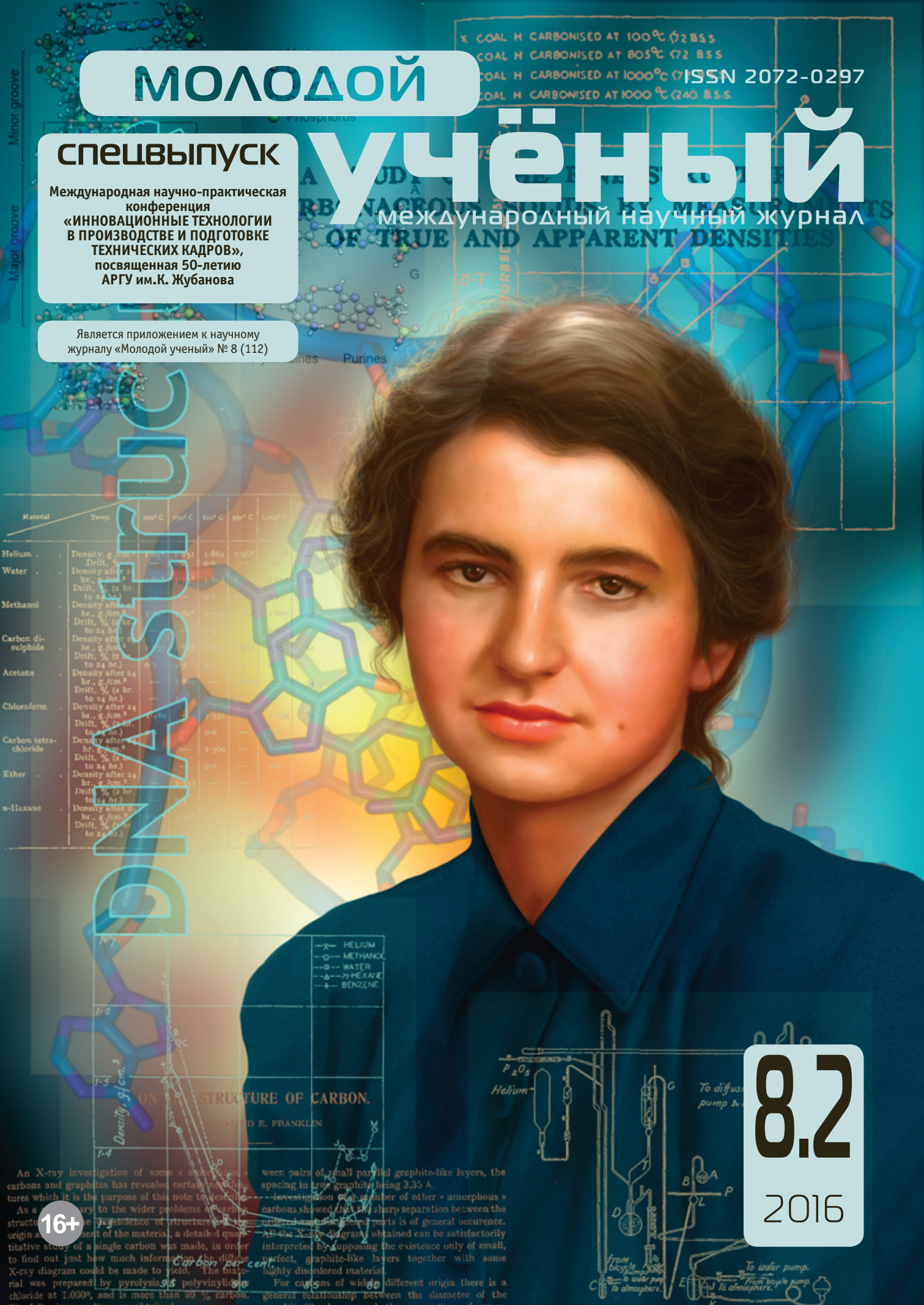
Международная научно-практическая конференция «ИННОВАЦИОННЫЕ ТЕХНОЛОГИИ В ПРОИЗВОДСТВЕ И ПОДГОТОВКЕ ТЕХНИЧЕСКИХ КАДРОВ», посвященная 50-летию АРГУ им.К. Жубанова

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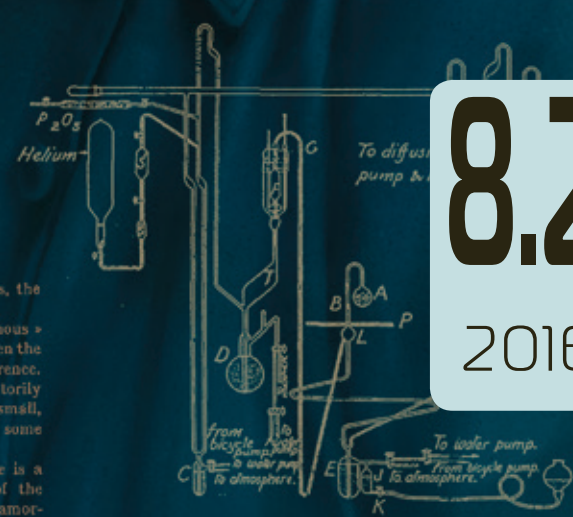
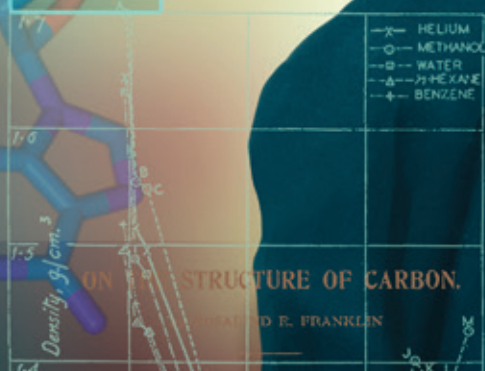
УЧЁНЫЙ

международный научный журнал

X COAL H CARBONISED AT 1000°C (2855
COAL H CARBONISED AT 805°C (72 B.S.
COAL H CARBONISED AT 1000°C (71 ISSN 2072-0297
COAL H CARBONISED AT 1000°C (240 B.S.S.



Material	Temp.	700° C	750° C	800° C	850° C	1,000° C
Helium	Density, g./cm. ³	0.0178	0.0173	1.861	1.950*	1.977*
Water	Drift, %	0.0	0.0	0.0	0.0	0.0
	Density after 24 hr., g./cm. ³	0.9998	0.9997	1.0000	1.0000	1.0000
Methanol	Drift, % (2 hr. to 24 hr.)	0.1	0.1	0.1	0.1	0.1
	Density after 24 hr., g./cm. ³	0.791	0.791	0.791	0.791	0.791
Carbon disulphide	Drift, % (2 hr. to 24 hr.)	0.7	0.7	0.7	0.7	0.7
	Density after 24 hr., g./cm. ³	1.263	1.263	1.263	1.263	1.263
Acetone	Drift, % (2 hr. to 24 hr.)	0.7	0.7	0.7	0.7	0.7
	Density after 24 hr., g./cm. ³	0.791	0.791	0.791	0.791	0.791
Chloroform	Drift, % (2 hr. to 24 hr.)	0.0	0.0	0.0	0.0	0.0
	Density after 24 hr., g./cm. ³	1.483	1.483	1.483	1.483	1.483
Carbon tetrachloride	Drift, % (2 hr. to 24 hr.)	0.0	0.0	0.0	0.0	0.0
	Density after 24 hr., g./cm. ³	1.594	1.594	1.594	1.594	1.594
Ether	Drift, % (2 hr. to 24 hr.)	0.0	0.0	0.0	0.0	0.0
	Density after 24 hr., g./cm. ³	0.713	0.713	0.713	0.713	0.713
n-Hexane	Drift, % (2 hr. to 24 hr.)	0.0	0.0	0.0	0.0	0.0
	Density after 24 hr., g./cm. ³	0.659	0.659	0.659	0.659	0.659



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An X-ray investigation of some « amorphous » carbons and graphites has revealed certain structures which it is the purpose of this note to describe. As a preliminary to the wider problems of carbon structure the dependence of structure on the origin and treatment of the material, a detailed quantitative study of a single carbon was made, in order to find out just how much information the diffuse X-ray diagram could be made to yield. The material was prepared by pyrolysis of polyvinylchloride at 1,000°, and is more than 99 % carbon. The following results were obtained.

65 % of the carbon is in the form of highly perfect graphite-like layers. The mean diameter of these

between pairs of small parallel graphite-like layers, the spacing in true graphite being 3.35 Å.

Investigation of a number of other « amorphous » carbons showed that the sharp separation between the ordered and disordered parts is of general occurrence. All the X-ray diagrams obtained can be satisfactorily interpreted by supposing the existence only of small, perfect, graphite-like layers together with some highly disordered material.

For carbons of widely different origin there is a general relationship between the diameter of the graphite-like layers and the proportion of amorphous material. This is shown in figure 1. For car-