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Perspectives Of using the Suleimenov — Mun waves in power 
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Introduction 
The Sule.rnenov — Mun Waves (SM waves) Were originally discovered (Il in the Study Of surface phenomena occurring at the 
contact of a solid state and a crcss.linked polymer network. Currently, both theoretically and experimentally, proved that there are 
some types af these waves (2.31 that capable to develop including in homogeneous environments at least. 
On the ba5i5 of the data, at present, it is already possible to Rive a correct definition of the SM waves, It consists in the following. 
The SM waves is called that oscillation Of an arbitrary nature developing in an arbitrary type Of media in the area Of critical 
parameter values. t is phase transition occurrence and caused by the Of med.urn response to the variation 
Of controlling parameters. 
The given definition is convenient to explain on the example of thermo-sensitive macromolecule solutions possessing an upper 
critical solution temperature of the phase transition. 
In this case, phase transltion takes place at a certain temperature value of the solution. As applied to the equilibrium comditians 
this point can be measured with high at the transition dyna 
regime there appear a particular t 
delay between the moment When solution acquires critical temperature and the time When there is a proper phase transition. 
This factor (41 relates to the fact that at temperature up to the phase transition macromo ecu es are in swollen coils which the 
degree Of swelling can be easily evaluated based on the degree ot swelling of cross-linked polymer networks grams of 
water per ane gram of matter). The phase transition resulted bv partial or complete loss of solubility af the 
s a p In the 
dens ty of the medium 
_ Loss of solubility it is due to the 
establishment Cf intramolecular micelles which cannot occur w thout the formation Cf Significantly more compact Structures than 
the original Swollen coil. 
The transition from one state to another requires. as a minimum, mcwement of certain part of macromolecule fragments in a space 
which resulted to the appearance of phase transition inertia factor, respectively. And ot this factor leads to the 
SuleimencN — Mun waves in the mentioned temperature range. 
2. Results arvd discussion 
In this paper the behavior of copolymer so utions of acrylic acid IAA) and N-isopropvlacrylamide (NIPAAMI in the phase transition 
have been experimental studied, 
In Figure 1, the experimental results of the measurement af electrical conductivity dependence on temperature at different pH 
values of mentioned copolymer solutions were Polw-ners with different 
mass ratios of hydrophobic and hydrophilic 
groups used. AS an example, the data for copolymer containing go mol.% NIPAArn and 20 mol % AA Was given. Автоматически созданный замещающий текст:
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Figure I. Dependence of electrical conductivity of NIPAAm4„4 copolymer solution on temperature; mol.%, 
pH.s,s 
It is seen that with increasing temperature there is a general tendency towards growth the electrical conductivity which is 
associated with raise of ionization degree of carboxyl groups in copolymer. Yet. the behavior of conductivity on temperature, as 
shown in Figure 1, indicates a significant drop in the number of mobile ions in the system in phase transition area (33.7 DC). It is 
expressed In the anamalrws decline af electroconductivitv of the solution caused, obviously, with carnpaction of thermo-sensitive 
fol awed by precipitation. 
Essentially, this type Of Can be excited spontaneously, and What is more it is possible to regulate the conditions Of activation, 
in particular due to the change tive phase transition temperature by adding into the solution an additional quantities Of IOW 
molecular weight salt, The mechanism ot this effect, as shown in this paper, is re ated to the change in the difference of osmotic 
pressure between inner regions of the coil and the media, 
In this the wave charac er 
t of electrical 
change as well as the COncOrnltant transform the value Of osmotic 
pressure Can be used far realization Of new Systems for utilization Of radiation was Shown. 
The simplest example Of Such System is a device that Converts oscillation difference Of electrostatic potentials arising at 
propagation of the SM waves between two electrodes. in source of a direct-current or alternatinvcurrent voltage. 
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