شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

ULTRASONIC STUDY OF TELLURITE GLASSES

" Thesis "

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By

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To .....

My Big Family

And My Wife

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List of Symbols

Symbol	Name	Symbol	Name
K	Bulk modulus.	τ	Relaxation time
G	Shear modulus.	τ_ε	Relaxation time at constant strain.
γ	Grüneisen parameter.	τ_σ	Relaxation time at constant stress.
ρ	Density.	f	Frequency.
W	Natural velocity.	ω	Angular frequency.
P	Hydrostatic pressure.	J	Compliance.
x	Mole fraction.	M	Modulus of elasticity.
α	Attenuation coefficient.	J_u	Unrelaxed compliance.
U	Electrostatic energy.	J_R	Relaxed compliance.
U_m	Madelung energy.	M_u	Unrelaxed modulus of elasticity.
r	Interatomic spacing.	M_R	Relaxed modulus of elasticity.
r_o	Equilibrium spacing.	$\Psi_{(t)}$	Normalized creep function.
σ	Stress.	$\varnothing_{(t)}$	Normalized stress relaxation function.
ε	Strain.	$\phi(\omega)$	Internal friction.
V_t	Packing density.	J^*	Complex compliance.
M_g	Molecular weight.	M^*	Complex modulus of elasticity.
R	Pauling's ionic radius.	$f_o = \tau_o^{-1}$	Attempt frequency.
e	Electronic charge.	V	Activation energy.
E	Young's modulus.	K_B	Boltzman's constant.
d	Thickness.	f	Bond stretching force constant.
$\mathscr{L}$	Length.	n_b	Number of network bonds per unit volume.
N	Number of turns.	n_f	Number of network bonds per formula unit.
i	Current.	$\bar{n}_c$	Average crosslink density.
μ	Relative permeability.	L	Longitudinal modulus.
μ_o	Permeability of free space.	f_b	Bond bending force constant.
B	Magnetic flux.	K_{bc}	Bulk modulus according to the bond compression model.
θ_D	Debye temperature.		
$\mathscr{H}$	Magnetic field strength.	K_{rd}	Bulk modulus according to the ring deformation model.
h	Planck's constant.		
		ℓ	External ring diameter (average atomic ring size)

H	Micro-hardness
α_m	Maduling constant.
N_c	Number of cations per glass formula unit.
n_c	Number of crosslinks per cation.
Δ	Asymmetry .
V	Activation energy.
n	Number of relaxing particles per unit volume.
A	Relaxation strength
Z	Number of atoms in the chemical formula of the glass.
T	Absolute temperature.
T_p	Peak temperature.
D	Deformation potential.
ν_m	Mean ultrasonic velocity.
ν_l	Longitudinal ultrasonic wave velocity.
ν_s	Shear ultrasonic wave velocity.
G_t	Dissociation energy.
μ	Poisson's ratio.
V_o	Equilibrium Volume.
V_m	Molar Volume.
N_A	Avogardro's number.

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