

621.315.592:537.312

ZnS:Mn:Al

Results over of researches of influence of flowage are brought on electric conductivity, spectrums of EPR and luminescence of crystals of remulin. It is certain that conductivity of some standards after a flowage increases on 4-6 orders, that results in an observability in them low-voltage lectroluminescence. On the basis of the obtained experimental data drawn conclusion about nature of the looked after phenomenon.

Keywords: remulin, flowage, electric conductivity, electronic paramagnetic resonance, luminescence, distribution.

1.

2.

2.1.

[1]

ZnS:Mn:Al,

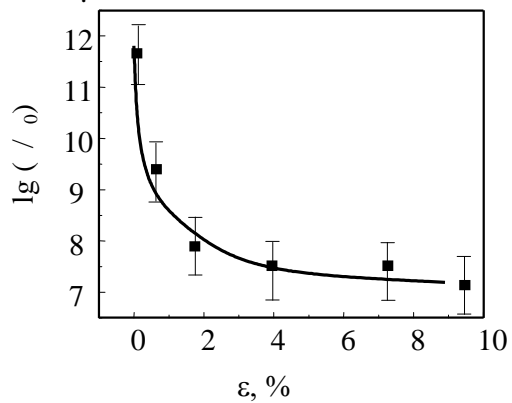
Al 10^{-2} % , Mn – 10^{-4} %

2 2 4

 10^4-10^6

1. 3-4%.

[1].

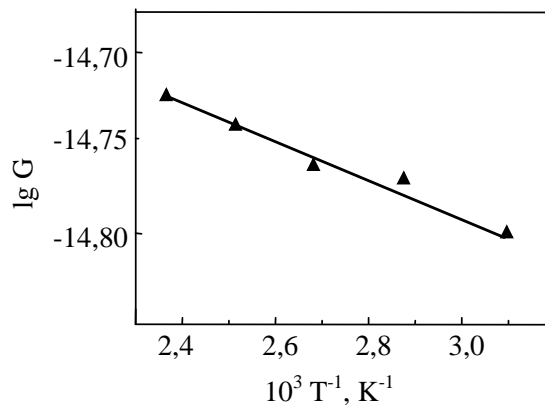


1.

[2].

(2).
0,02

$\ln \left(\frac{1}{T} \right)$



2.

ZnS

(v 0 4%)

$\ln G - \frac{1}{T}$

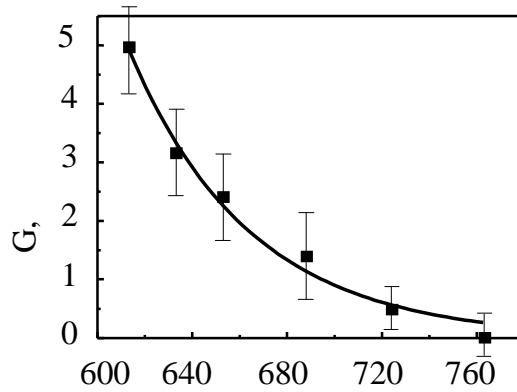
400-500

(~ 400)

750-850 , 1,5·10⁴ / .

.3

4%



.3.

4% ZnS

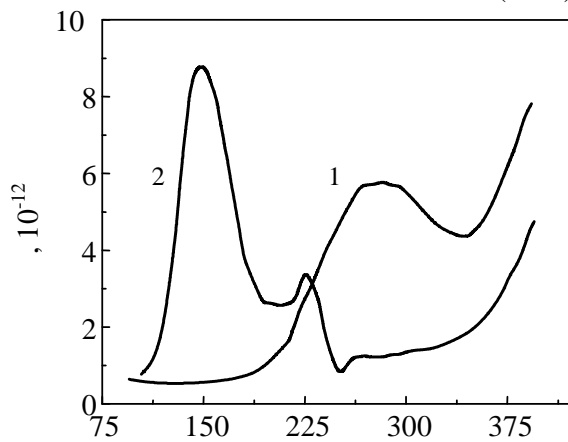
6 (.3)

$$\tau = \tau_0 \exp\left(-\frac{E}{kT}\right) \quad (1)$$

, k -

(0,8-1,0)

() [3].



.4.

ZnS (1) (2)

()

(. 4), ~ 0,2 (≈ 0,018
 ~ 260 1) ~ 150 2)
 0,02 , . 3,

2.2. ZnS

2 6 [4].

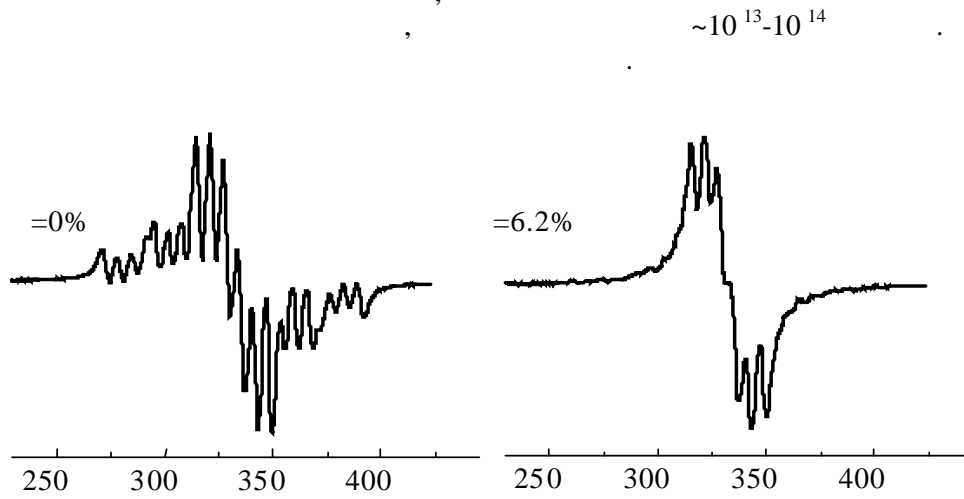
~ 20-25 % : 1)
 2 ; 2) 6 ; 3)
 4) (2)

(2)
 3 , Mn²⁺ . 5. “ ”

5), (

Mn²⁺ “ ” Mn²⁺
 [4],

. 5 ,



.5. ZnS-Mn,Al :) $v = 0\%$;) $v = 6,2\%$

[5].

«

2 -

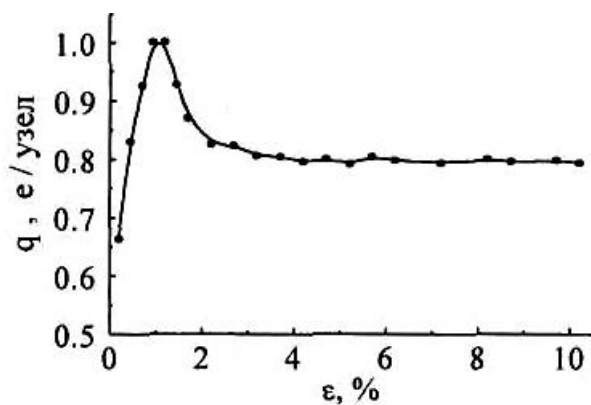
2 - [6; 7].

2+

[8].

(.6).

1 /



. 6.

ZnS

[2]

(. 1)

(. 6).

[9].

1. // . – 1980. – . 22. – . 2186-2191. ZnSe /
2. // . – 1961. – Т. 3. – . 36-52. /
3. // [. .]. – . : . , 1981. – 173 .
4. Mn²⁺ // . – 1974. – Т. 19, 2. – С. 289-291. ZnS /
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6. // . – 1976. – . 18. – . 2468-2472. -
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