## FEATURES OF THE TULA HORIZON CRUDE OIL SELF-DIFFUSION IN THE FIELD YAMASHINSKOYE

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```
[3–5].
                                        [5, 6].
                                       [2].
                                                                                             7 225
          1) 1 311 (
                                   2)
                                 ),
                                                                               -10,
                                                 ALPHA (
                                                                    Fungilab,
                                                       [7].
  )
                                                                                    . 1.
                                 ),
                                                 ( . 7225 1311)
                                                          0,892
0,899
                                                                                  108
             [3, 5])
                                                                 g_{max} \sim 50 / [8]. 90^{\circ}-x
           64
                                        [5, 9, 10],
                                                                                            t = 0,
  1 —
                                            t=2\tau+\tau_1,
                                                               g\gg g_0 (
                   ),
                           g_0
                                                                                                 )
            [5]
                       A(2\tau,\tau_1,g) = A(2\tau,\tau_1,0)exp(-\gamma^2\delta^2g^2t_dD),
                                                                                                (1)
```

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```
A(2\tau,\tau_{1},0) = \frac{A(0)}{2} exp\left(-\frac{2\tau}{T_{2}} - \frac{\tau_{1}}{T_{1}}\right),
       A(2\tau, \tau_1, g) \quad A(2\tau, \tau_1, 0) —
70^{\circ}; A(0) - 90^{\circ}
      2\tau + \tau_1 \Pi
                                                                                                                                        \tau_1);
  _{1} T_{2} —
                                                                                             — exp(-\gamma^2\delta^2g^2t_dD). g^2, при усли
                                  — A(2, :_1, 0)
                              lgA(g^2),
                                                                                                           A(g^2)
                                         t<sub>d</sub> [8, 10].
                                       ( I = \frac{2}{2}) A(2, \frac{\tau_1}{\tau_1}, 0) = \frac{A(0)}{2} \exp\left(-\frac{2\tau}{T_2} - \frac{\tau_1}{T_1}\right), \pi p
                                                        (2,7\pm0,1)\cdot 10^{-9} <sup>2</sup>/ [8,10]
                                                                                                                   = 303 .
                                                                                                                         (303 \div 363).
                                                                                             301 .
                               t_d = 91 , \delta = 199 , = 303 .
                                       (1),
                                                                                                          [5],
                                                                                                                               [11-13]
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```

```
[1, 14].
                                                             ( . 2),
[1, 14],
                                                                                  . 1,
                                                                                                                [11]
                                 A(g^2) = \sum_i P_i \qquad (-\gamma^2 \delta^2 g^2 \cdot t_d \cdot D_i),
                                                                                                                 (2)
    D_i — i-
                                          D_i.
                                                                      (
                                                                                                          [5, 11]
       --D_{eff}.
                                             D_{eff} = \sum_{i} P_i \cdot D_i.
                                                                                                                 (3)
                                                  [5,11–13].
                           D_{eff}
                           \delta^2 t_d.
                                                     , D_{eff}
A(g^2)[11],
                                                                  A(g^2) \langle D \rangle
t_d = 91
                                        303 .
                                                         D_{eff} = 1.93 \cdot 10^{-11} <sup>2</sup>/c.
α 3
             . 2
1 2
                                                                  t_d = 91 .
                                                  = 303
```

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, .7 225 ( 1), 
$$D_{eff} = 1.93 \cdot 10^{-11} \ ^2/ \ . \qquad , \qquad 2$$
 
$$D_{eff} = 2.84 \cdot 10^{-11} \ ^2/ \ .$$
 
$$( .7225 \ I3II) = 303 \ .$$
 
$$t_d = 9I$$

	$D_{eff} \cdot 10^{11}$ , <sup>2</sup> /	$E_{D_{z}}$ /	, .	, %
1	1,93	30,4	108	25
2	2,84	27,2	53,1	20

1 2 7 225 1 311. . 2). 1 2 . 7 225 ( . . 1 311 [3, 5, 6] [6] -(4)  $K_B$  — , m — (4)  $D \propto 1/\eta$  ( ,  $\eta$ 7 225 1 311 ( 2) . 1311 ( ). . 7 225 ( 2 1.

```
1 2)
                                                                       E_D.
          E_D
                                                                                                      [5, 15].
       D,
                                         [5, 15],
                                          D = D_0 exp\left(-\frac{E_D}{RT}\right),
                                                                                                            (5)
     D_0 —
                                                             (303 \div 363) .
    . 2), lgD_{eff}=f(10^3/T)
                                                 (5).
                                                             E_D.
                                         D_{eff}
(t_d = 21, 91 \quad 151)
   . 2.

\begin{array}{ccc}
1 & 2, \\
td = 21 & , \delta = 397
\end{array}

                                                                2,8
                                                                       2,9
                                                                              3,0
                                                                                      3,1
                                     (5)
)
                                                      2 (~27,2
           1 (~30,4
                                                                       1 2. (2),
                                           7 225 (
                                                               1) 1 311 (
                                                                                         2),
                                                                                                     D_{eff}.
                                             (
                                                                                                       65
```

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```
. 1 311 (
                                                 . 7 225 (
                                                                       1)
                                                                     1.
                                                                                                          2),
                                                                                                    E_D.
                                                          , 1982. – 702 .
    2.
                                                                , 2003. - 816 .
    3
                                                                . 1975. - 592 .
                                                                                                 1. –
                                 , 1987. - 204 .
     1979. - 236
                        , 2013. - .101-104.
                                                        . – 2009. – 3. – . 22-28.
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                              15.
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