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**THE ROLE OF THE INFLUENCE OF QUANTUM AND RESONANT INTERACTIONS OF ATOMS ON THE MECHANISM OF EUTECTIC CONTACT MELTING**

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**Abstract.** For the first time, an analysis of the initial stage of eutectic contact melting has been carried out, taking into account the elements of quantum mechanics – the attraction of the atom in question to its «own» lattice site. The resonant interaction of atoms and the synchronization of their frequencies are considered. The role of the principle of identity, which is based on quantum structural interactions leading to the recognition of «one’s own» and «their», is emphasized.

**Keywords:** eutectic, melting, stage, structure, mechanism, resonance, quantum effect.

( )

[1].

[2, 3].

(H<sub>2</sub>O) (NaCl) -21,7 ° ,  
 (0 ° ), (800,8 ° ).

[4]–

[5],

( . . . )

[6].

[5, 7]

[5, 8],

[9, 10].

[10-16]. [11-13, 15]

». [13]

[10]

[12],

8-10

( ) .

( )

$$\varepsilon \sim 4.$$

( )

( )

( )

F -

... «

[17].

[17]

$$F_{CT} = k \cos\left(\frac{4\pi\delta}{d}\right) \quad \delta < \frac{d}{4}$$

— , d —

« » — « » [17], « — » [18].

[17].

( a = b ),

$$A_{резон} \sim \frac{1}{\nu_{резон} - \nu}$$

$$E_{резон} = \frac{1}{2} m \omega^2 A_{резон}^2$$

m —

, = 2 — , A —

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