

ATOMIC DEFECTS IN DIAMOND: PATTERNS OF FORMATION AND SUBSEQUENT TRANSFORMATION

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Representative collections of laboratory-grown (HPHT/CVD) and natural diamonds have been studied. Mechanisms installed:

- Generation and subsequent transformation of primary growth and radiation defects;
- Transformations of intrinsic and impurity structural defects during annealing of diamonds of different genesis in the stability fields of diamond and graphite.

Models for the transformation of atomic defects in the diamond structure are constructed, allowing to obtain promising environments for various ultra high tech applications.