**High technologies in IPME RAS**

In two papers published in 2015 by leading experts (“**Armin Dadgar. Sixteen years GaN on Si// Phys. Status Solidi B, 1–6 (2015)** **/ DOI 10.1002/pssb.201451656**” and Nobel Prize winner in Physics in 2014 **Hiroshi Amano** from the University of **Nagoya**, “T. Mitsunari, H. J. Lee, Y. Honda, and H. Amano. Single-crystalline semipolar GaN on Si(001) using a directional sputtered AlN intermediate layer// **Journal of Crystal Growth**. **http://dx.doi.org/10.1016/j.jcrysgro.2015.08.027)** in the field of semiconductor electronics and the growth of wide bandgap semiconductors, especially GaN, on silicon, that is very necessary for modern micro-and optoelectronics, only the achievements of S.A. Kukushkin’s laboratory members were noted among all groups working on this subject in Russia. Thus, as the only treatise on semi-polar GaN on Si in Russia, prof. **A. Dagar** has noted in his review "Sixteen years GaN on Si" the paper published by members of our Institute in the Institute’s journal Rev. Adv. Mater. Sci. in 2014. As the only treatise in the world on the growth of semi-polar GaN layers by chloride-hydride epitaxy, Nobel Prize winner **Hiroshi Amano** has noted the paper on the synthesis of semi-polar GaN on Si published by our members in Technical Physics Letters in 2014. Taking into account the results obtained in the papers *Armin Dadgar. Sixteen years GaN on Si// Phys. Status Solidi B, 1–6 (2015) / DOI 10.1002/pssb.201451656* and *T. Mitsunari, H. J. Lee, Y. Honda, and H. Amano. Single-crystalline semipolar GaN on Si(001) using a directional sputtered AlN intermediate layer // Journal of Crystal Growth.* [*http://dx.doi.org/10.10T.16/j.jcrysgro.2015.08.027*](http://dx.doi.org/10.10T.16/j.jcrysgro.2015.08.027)*)*, we can see that the results obtained by members of our Institute are two times higher. In particular, S.A. Kukushkin’s laboratory members have managed to get semi-polar epitaxial GaN layers with a deflection angle from the polar *c*-axis by 53°, which allow to produce super-power LEDs and lasers based on such crystals even today. The authors of the papers *Armin Dadgar. Sixteen years GaN on Si// Phys. Status Solidi B, 1–6 (2015) / DOI 10.1002/pssb.201451656* and *T. Mitsunari, H. J. Lee, Y. Honda, and H. Amano. Single-crystalline semipolar GaN on Si(001) using a directional sputtered AlN intermediate layer// Journal of Crystal Growth.* [*http://dx.doi.org/10.10T.16/j.jcrysgro.2015.08.027*](http://dx.doi.org/10.10T.16/j.jcrysgro.2015.08.027)*)* has managed to deflect a GaN crystal by, respectively, 23° and 35°, that does not allow to say to the full extent about the realization of a semi-polar GaN by the authors of these papers.