

## Electronic journal for the data of plasma-chemical synthesis of materials in microwave discharges initiated by the radiation of a pulsed gyrotron in mixtures of metals and dielectrics powders

*A. K. Kozak, Z. A. Zakletsky, A. S. Sokolov, and N. N. Skvortsova*

Prokhorov General Physics Institute of the Russian Academy of Sciences  
38 Vavilov st., Moscow, 119991, Russia  
E-mail: yokary@inbox.ru

*Received April 21, 2022*

***The program of the electronic journal for plasma chemical research on the synthesis of materials is presented at a specialized stand with a powerful pulsed gyrotron of the Institute of General Physics of the RAS. Based on the experimental cycle of 2019-2020 plasma chemical synthesis of micro and nanoparticles, a prototype of an electronic journal was created and the requirements for storing and processing information were formed for it. The prototype of the electronic magazine was developed on the 1C: Enterprise platform. The created program for the formation of a database of parameters of plasma chemical synthesis was successfully tested in the experimental sessions of 2020-2021.***

***Keywords:*** plasma chemistry, microwave discharge, gyrotron, data collection, database, 1C: Enterprise 8.3 platform.

DOI: 10.51368/2307-4469-2022-10-3-225-233

### REFERENCES

1. N. S. Akhmadullina, N. N. Skvortsova, E. A. Obraztsova, V. D. Stepakhin, E. M. Konchekov, A. A. Letunov, A. A. Konovalov, Yu. F. Kargin, and O. N. Shishilov, *Chem. Phys.* **516**, 63 (2019).  
<https://doi.org/10.1016/j.chemphys.2018.08.023>.
2. G. M. Batanov, V. D. Borzosekov, D. Golberg, L. D. Iskhakova, L. V. Kolik, E. M. Konchekov, N. K. Kharchev, A. A. Letunov, D. V. Malakhov, F. O. Milovich, E. A. Obraztsova, A. E. Petrov, I. G. Ryabikina, K. A. Sarkisian, V. D. Stepakhin, and N. N. Skvortsova, *J. Nanophoton* **10**, 012520 (2016).
3. N. K. Kharchev, G. M. Batanov, L. V. Kolik, D. V. Malakhov, A. E. Petrov, K. A. Sarkisyan, N. N. Skvortsova, V. D. Stepakhin, V. I. Belousov, S. A. Malygin, and E. M. Tai, *Rev. Sci. Instrum.* **84**, 013507 (2013).  
<https://doi.org/10.1063/1.4773544>.
4. N. N. Skvortsova, V. D. Stepakhin, A. A. Sorokin, D. V. Malakhov, N. G. Gusein-zade, N. S. Akhmadullina, V. D. Borzosekov, E. V. Voronova, and O. N. Shishilov, *Materials* **14**, 6472 (2021).  
<https://doi.org/10.3390/ma14216472>
5. Data collection system [Electronic resource] [https://www.lcard.ru/lexicon/data\\_acquisition\\_system](https://www.lcard.ru/lexicon/data_acquisition_system) (accessed: 09.11.2020).
6. A.K. Kozak Certificate of state registration of computer programs No. 2022660766 "Program for the formation of a database of parameters of experiments for the synthesis of micro- and nanoparticles with controlled composition and structure based on microwave discharge in gyrotron radiation", date of state registration in the Register of computer programs 08 June 2022.