

### **Combustion synthesis and consolidation of Ni-W nanocomposite material**

Zakaryan, Marieta; **Aydinyan, Sofiya**; Kharatyan, Suren Ceramics in modern technologies 2019 / p. 67-74  
<https://doi.org/10.29272/cmt.2018.0007>

### **Combustion synthesis and reactive spark plasma sintering of non-equiatomic coal-based high entropy intermetallics**

Kuskov, Kirill Vasilevich; Nepapushev, Andrey A.; **Aydinyan, Sofiya**; Shaysultanov, Dmitry G.; Stepanov, Nikita D.; Nazaretyan, Khachik; Kharatyan, Suren; Zakharova, Elena V.; Belov, Dmitry S.; Moskovskikh, Dmitry O. Materials 2023 / art. 1490  
<https://doi.org/10.3390/ma16041490> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Combustion synthesis of TiC-ZrC composite powder : role of mechanical activation**

**Hussainova, Irina**; Manaseryan, L.; Khachatryan, H.; Hobosyan, M.; Kharatyan, Suren World PM2010 proceedings. Vol. 2, Sintering, Secondary and Finishing Operations, Full Density and Alternative Consolidation 2010 / p. 181-188

### **DTATG study of NiO Reduction by Mg+C combined reducer**

Zakaryan, Marieta; Niazian, D.; **Aydinyan, Sofiya**; Kharatyan, Suren Հայաստանի քիմիական հանդես = Chemical Journal of Armenia = Химический журнал Армении 2018 / p. 473–485 : ill <http://chemistry.asj-oa.am/id/eprint/7899>  
[https://www.ester.ee/record=b1300031\\*est](https://www.ester.ee/record=b1300031*est)

### **Fabrication of Cu-Mo composites combining SHS and SLS technologies : poster presentation**

**Aydinyan, Sofiya**; Minasyan, Tatevik; Kirakosyan, Hasmik; **Aghayan, Marina**; **Hussainova, Irina**; Kharatyan, Suren ECerS 2017 : 15th Conference & Exhibition of the European Ceramic Society, July 9–13, 2017, Budapest, Hungary : Book of abstracts 2017 / p. 48 <https://static.akcongress.com/downloads/ecers/ecers2017-abstract-book.pdf>

### **High-entropy (Ti<sub>0.4</sub>Ta<sub>0.4</sub>V<sub>0.4</sub>Nb<sub>0.4</sub>Cr<sub>0.4</sub>)AlC MAX phase synthesized by SHS : structural, thermal, and mechanical insights**

Melkonyan, S.; Zakaryan, Marieta; Grigoryan, Y.; **Hussainova, Irina**; **Aydinyan, Sofiya**; Kharatyan, Suren JTACC+V4 2025 : 4th Journal of Thermal Analysis and Calorimetry Conference & 10th V4 (Joint Czech-Hungarian-Polish-Slovak) Thermoanalytical Conference : Book of Abstracts 2025 / p. 179 <https://static.akcongress.com/downloads/jtacc/jtacc2025/jtacc2025-boA.pdf>

### **The influence of thermal dilution on the microstructure evolution of some combustion-synthesized refractory ceramic composites**

**Aydinyan, Sofiya**; Kharatyan, Suren; **Hussainova, Irina** Crystals 2022 / art. 59 <https://doi.org/10.3390/cryst12010059> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Joint reduction of NiO + WO<sub>3</sub> oxides by combined Mg/C reducer. Synergetic effect**

Zakaryan, Marieta; Nazaretyan, K.; **Aydinyan, Sofiya**; Kharatyan, Suren XV International Symposium on Self-Propagating High Temperature Synthesis, September 16-20, 2019 / p. 546-548 : ill  
[http://www.ism.ac.ru/events/SHS2019/doc/abstract\\_shs2019.pdf](http://www.ism.ac.ru/events/SHS2019/doc/abstract_shs2019.pdf)

### **Joint reduction of NiO/WO<sub>3</sub> pair and NiWO<sub>4</sub> by Mg + C combined reducer at high heating rates**

Zakaryan, Marieta; Nazaretyan, Khachik; **Aydinyan, Sofiya**; Kharatyan, Suren Metals 2021 / art. 1351, 13 p. : ill  
<https://doi.org/10.3390/met11091351> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Kinetic highlights of the reduction of silver tungstate by Mg + C combined reducer**

Zakaryan, Marieta; Nazaretyan, Khachik; **Aydinyan, Sofiya**; Kharatyan, Suren Metals 2022 / art. 1000  
<https://doi.org/10.3390/met12061000> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Magnesium-carbothermal reduction of CuWO<sub>4</sub>/MeO nanostructured precursors & synthesis of W/Cu composite materials**

Zakaryan, Marieta; Kirakosyan, Hasmik; Abovyan, L.; **Aydinyan, Sofiya**; Kharatyan, Suren Chemical Journal of Armenia 2017 / p. 450-461 <http://chemistry.asj-oa.am/id/eprint/7826>

### **The mechanism of joint reduction of MoO<sub>3</sub> and CuO by combined Mg/C reducer at high heating rates**

Kirakosyan, Hasmik; Nazaretyan, Khachik; **Aydinyan, Sofiya**; Kharatyan, Suren Journal of composites science 2021 / art. 318, 20 p. : ill <https://doi.org/10.3390/jcs5120318> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Mo-Cu pseudoalloys by combustion synthesis and spark plasma sintering**

**Minasyan, Tatevik**; Kirakosyan, Hasmik; **Aydinyan, Sofiya**; Liu, Lei; Kharatyan, Suren; **Hussainova, Irina** Journal of materials science 2018 / p. 16598–16608 <https://doi.org/10.1007/s10853-018-2787-1> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Nanosize molybdenum carbide preparation by sol-gel combustion synthesis with subsequent fast heating**

Kirakosyan, Hasmik; Nazaretyan, Khachatur; Kirakosyan, Khachatur; Tumanyan, M.E.; **Aydinyan, Sofiya**; Kharatyan, Suren Chemical Journal of Armenia 2017 / p. 11-19 : ill <http://chemistry.asj-oa.am/id/eprint/7782>

### **Nanosized molybdenum carbide synthesized by solution combustion synthesis with subsequent thermal treatment**

Nazaretyan, Khachik; Kirakosyan, Hasmik; **Aydinyan, Sofiya**; Kharatyan, Suren SHS 2017 : XIV International Symposium On Self-Propagating High Temperature Synthesis, September 25-28, 2017, Tbilisi, Georgia : Book of Abstracts 2017 / p. 175-176 : ill

### **Nanostructural evolution in mesoporous networks using in situ high-speed temperature scanner**

**Kamboj, Nikhil Kumar; Aghayan, Marina;** Rubio-Marcos, Fernando; Nazaretyan, Khachatur; Rodriguez, Miguel Angel; Kharatyan, Suren; **Hussainova, Irina** Ceramics international 2018 / p. 12265-12272 : ill <https://doi.org/10.1016/j.ceramint.2018.04.010> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **A new synthesis pathway for molybdenum carbide nanopowder by solution combustion**

Kirakosyan, Hasmik; Nazaretyan, Khachik; **Aydinyan, Sofiya;** Tumanyan, Manvel; Kharatyan, Suren The International Conference Dedicated to the 50th Anniversary of Self-Propagating High Temperature Synthesis (SHS-50) : proceedings = Международная конференция СВС-50, приуроченная к 50-летию юбилею научного открытия Явление волновой локализации автотормозящихся твердофазных реакций... : сборник материалов 2017 / p. 35–36 : ill <http://www.ism.ac.ru/events/SHS-50/abstracts.pdf>

### **NiO and WO<sub>3</sub> coreduction by combined reducers Mg/C and preparation of W-Ni alloy [Online resource]**

Zakaryan, Marieta; **Aydinyan, Sofiya;** Kharatyan, Suren Abstracts : 14th International Ceramics Congress 2018 / CB-10.2:L03 [http://2018.cimtec-congress.org/abstracts\\_focused\\_session\\_cb-10](http://2018.cimtec-congress.org/abstracts_focused_session_cb-10)

### **NiO reduction by Mg plus C combined reducer at high heating rates**

Zakaryan, Marieta; Nazaretyan, K.T.; **Aydinyan, Sofiya;** Kharatyan, Suren Journal of thermal analysis and calorimetry 2021 / p. 1811-1817 : ill <https://doi.org/10.1007/s10973-020-10148-5> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Phase and microstructure evolution patterns at combustion synthesis of high-entropy M<sub>2</sub>AlC (M=Ti/Ta/V/Nb/Cr) MAX phase**

Melkonyan, Syuzanna; Zakaryan, Marieta; Grigoryan, Yeva; Kharatyan, Suren; **Hussainova, Irina;** Chabanais, Florian; Shamshirgar, Ali Saffar; Persson, Per O. A.; Rosen, Johanna; **Aydinyan, Sofiya** Journal of materials research and technology 2025 / p. 5800-5807 <https://doi.org/10.1016/j.jmrt.2025.10.186>

### **Preparation of nanosize MO<sub>2</sub>C by combining solution combustion synthesis with subsequent F**

Nazaretyan, Khachik; Kirakosyan, Hasmik; **Aydinyan, Sofiya;** Kharatyan, Suren JTACC+V4 : 1st Journal of Thermal Analysis and Calorimetry Conference and 6th V4 (Joint Czech-Hungarian-Polish-Slovakian) Thermoanalytical Conference : June 6–9, 2017, Budapest, Hungary : Book of Abstracts 2017 / p. 58 <https://static.akcongress.com/downloads/jtacc/jtacc2017-book-of-abstracts.pdf>

### **Reaction pathway in the WO<sub>3</sub>-NiO-Mg-C system. DTA/TG study**

Zakaryan, Marieta; Niazian, O.; **Aydinyan, Sofiya;** Kharatyan, Suren Chemical Journal of Armenia 2019 / p. 223-232 <http://chemistry.asj-oa.am/id/eprint/7944>

### **Reduction mechanism of WO<sub>3</sub> + CuO mixture by combined Mg/C reducer : non-isothermal conditions - high heating rates**

**Aydinyan, Sofiya;** Nazaretyan, Khachatur; Zargaryan, A.G.; Tumanyan, M.E.; Kharatyan, Suren Journal of thermal analysis and calorimetry 2018 / p. 261–269 : ill <https://doi.org/10.1007/s10973-018-6985-5> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Selective Laser Melting Of Combustion Synthesized 2Mo-Cu and 3Cu-Mo Composites**

**Minasyan, Tatevik; Aydinyan, Sofiya;** Kharatyan, Suren SHS 2017 : XIV International Symposium On Self-Propagating High Temperature Synthesis, September 25-28, 2017, Tblisi, Georgia : Book of Abstracts 2017 / p. 155–156 : ill [http://mmi.ge/uploads/files/2017-10/1507298270\\_book-of-abstracts-shs-2017.pdf](http://mmi.ge/uploads/files/2017-10/1507298270_book-of-abstracts-shs-2017.pdf)

### **SHS reprocessing of copper oxide waste into copper powder**

Mahmoudi, H. A.; Abovyan, L.S.; **Aydinyan, Sofiya;** Kharatyan, Suren International Journal of Self-propagating High-temperature Synthesis 2019 / p. 233–238 : ill <https://doi.org/10.3103/S1061386219040095> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **SHS-derived powders by reactions' coupling as primary products for subsequent consolidation**

**Aydinyan, Sofiya;** Kharatyan, Suren; **Hussainova, Irina** Materials 2021 / art. 5117 <https://doi.org/10.3390/ma14175117> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **SHS-derived powders obtained by coupled reactions and thermal dilution for subsequent consolidation**

**Aydinyan, Sofiya;** **Hussainova, Irina;** Kharatyan, Suren CIMTEC 2022 : 15th International Ceramics Congress (June 20-24) CIMTEC 2022 : 9th Forum on New Materials (June 25-29) 2022 [http://2022.cimtec-congress.org/focused-session-ca-11\\_1](http://2022.cimtec-congress.org/focused-session-ca-11_1)

### **Solution combustion synthesis and spark plasma sintering of magnetic high entropy materials**

Kirakosyan, Hasmik; Sargsyan, Armen; **Aydinyan, Sofiya;** Kharatyan, Suren CIMTEC 2022 : 15th International Ceramics Congress (June 20-24) CIMTEC 2022 : 9th Forum on New Materials (June 25-29) 2022 [http://2022.cimtec-congress.org/focused-session-ca-11\\_1](http://2022.cimtec-congress.org/focused-session-ca-11_1)

### **Solution combustion synthesis of MnFeCoNiCu and (MnFeCoNiCu)<sub>3</sub>O<sub>4</sub> high entropy materials and sintering thereof**

**Aydinyan, Sofiya;** Kirakosyan, Hasmik; Sargsyan, Armen; **Volobujeva, Olga;** Kharatyan, Suren Ceramics International 2022 / p.

**Solution combustion synthesis of nanostructured molybdenum carbide**

Kirakosyan, Hasmik; Nazaretyan, K.T.; Mnatsakanyan, R.A.; **Aydinyan, Sofiya**; Kharatyan, Suren Journal of nanoparticle research 2018 / art. 214, 11 p. : ill <https://doi.org/10.1007/s11051-018-4312-5> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

**Spark plasma sintering of combustion synthesized TiB<sub>2</sub>-Si composite**

**Liu, Le; Aydinyan, Sofiya; Minasyan, Tatevik; Baroninš, Janis; Antonov, Maksim**; Kharatyan, Suren; **Hussainova, Irina** Ceramics in modern technologies 2019 / p. 59-66 <https://doi.org/10.29272/cmt.2018.0009>

**Study of reduction mechanism of WO<sub>3</sub>+CuO mixture by combined Mg/C reducer - influence of high heating rate**

Nazaretyan, Khachik; Zargaryan, Armen; **Aydinyan, Sofiya**; Kharatyan, Suren JTACC+V4 : 1st Journal of Thermal Analysis and Calorimetry Conference and 6th V4 (Joint Czech-Hungarian-Polish-Slovakian) Thermoanalytical Conference : June 6–9, 2017, Budapest, Hungary : Book of Abstracts 2017 / p. 206-207 <https://static.akcongress.com/downloads/jtacc/jtacc2017-book-of-abstracts.pdf>

**Synthesis and consolidation of Mo-Cu composite nanopowder [Online resource]**

**Minasyan, Tatevik**; Kirakosyan, Hasmik; **Aydinyan, Sofiya**; **Liu, Le**; **Hussainova, Irina**; Kharatyan, Suren Explosive Production of New Materials : Science, Technology, Business, and Innovations 2018 / p. 151-153 : ill [http://www.ism.ac.ru/events/EPNM2018/EPNM2018\\_BookofPapers.pdf](http://www.ism.ac.ru/events/EPNM2018/EPNM2018_BookofPapers.pdf) <http://dx.doi.org/10.30826/EPNM18-053>

**Synthesis of Ni–W nanopowders from oxide and salt precursors in combustion mode by using thermo-kinetic coupling approach [Online resource]**

Zakaryan, Marieta; **Aydinyan, Sofiya**; Kharatyan, Suren Explosive Production of New Materials : Science, Technology, Business, and Innovations 2018 / p. 298-300 : ill [http://www.ism.ac.ru/events/EPNM2018/EPNM2018\\_BookofPapers.pdf](http://www.ism.ac.ru/events/EPNM2018/EPNM2018_BookofPapers.pdf) <http://dx.doi.org/10.30826/EPNM18-103>

**The mechanism of WO<sub>3</sub>(MoO<sub>3</sub>) & CuO coreduction by combined Mg/c reducer at non isothermal conditions**

**Aydinyan, Sofiya**; Kharatyan, Suren SHS 2017 : XIV International Symposium On Self-Propagating High Temperature Synthesis, September 25-28, 2017, Tblisi, Georgia : Book of Abstracts 2017 / p. 45-47 : ill [http://mmi.ge/uploads/files/2017-10/1507298270\\_book-of-abstracts-shs-2017.pdf](http://mmi.ge/uploads/files/2017-10/1507298270_book-of-abstracts-shs-2017.pdf)

**Термическое и кинетическое сопряженные реакций при самораспространяющемся высокотемпературном синтезе материалов**

**Aydinyan, Sofiya**; Kharatyan, Suren Технологическое горение 2019 / с. 429-451 <https://www.elibrary.ru/item.asp?id=41525861>