

## Ֆիզիկայի գիտահետազոտական ինստիտուտ

Պինդ մարմնի ֆիզիկայի լաբորատորիա

Առաջատար գիտաշխատող

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### Investigations of the Structure and Morphology of CsPbBr<sub>3</sub> Films Deposited by Vacuum Thermal Evaporation [Исследования структуры и морфологии пленок CsPbBr<sub>3</sub>, осажженных методом вакуумного термического испарения]

L. A. Matevosyan, S. A. Petrosyan, V. P. Mkrtchyan, A. P. Aivazyan, V. S. Harutyunyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2025 202-209

Հոդված

### Investigation of structural and optical properties of CsPbBr<sub>3</sub> films synthesized by single-source vacuum evaporation method

Valeri Harutyunyan, Lenrik Matevosyan, Vahram Mkrtchyan, Gayane Pluzyan, Sargis Petrosyan,

Anna Tokmajyan

IET Conference Proceedings 2024 38-41/208333

Հոդված

### Residual stress on ettringite crystals in mature Type K shrinkage-compensating cement pastes

Valeri S. Harutyunyan, Ashot P. Aivazyan, Vahram P. Mkrtchyan, Paulo J.M. Monteiro,

Ana Paula Kirchheim, Sebastian Prinz

Construction and Building Materials 2023 132892

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### XRD and combined SEM-EDS analysis of long-term hydration products of ye'elimite

Valeri S. Harutyunyan

Materials Chemistry and Physics 2022 125373

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### Analysis of hydration products, hydration degree, and CO<sub>2</sub> capture in “ye'elimite -H<sub>2</sub>O” system by X-ray diffraction, combined SEM-EDS, and FTIR techniques

Valeri S. Harutyunyan

Journal of the Taiwan Institute of Chemical Engineers 2022 104222

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### Electro Spark Synthesis of $\alpha$ -WC Powder and Study of Its Phase Transformations upon Annealing

V. S. Harutyunyan, L. A. Petrosyan, A. V. Aganyan, A. N. Avagyan, A. K. Kostanyan, S. G. Manukyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2022 382-388

Հոդված

### The Madelung constant and bonding angle as “sensors” of the high-pressure induced

## **amorphization and first-order isostructural phase transition in Mg(OH)<sub>2</sub> and Ca(OH)<sub>2</sub>**

Valeri S. Harutyunyan

JOURNAL OF SOLID STATE CHEMISTRY 2021 121993(10pages)

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*Ուսումնական ձեռնարկ*

### **Պինդ մարմնի ֆիզիկայի լաբորատոր աշխատանքներ. մաս 2**

Ալբերտ Կիրակոսյան, Արշակ Վարդանյան, Աննա Ասատրյան, Արամ Մանասեյան,

Վալերի Հարությունյան

2021 190

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### **Anomalous behavior of the Madelung constant and I-Fe-I bonding angle at high-pressure induced structural phase transition of FeI<sub>2</sub>**

V.S. Harutyunyan

Materials Chemistry and Physics 2020 122315(1-9)

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*Հոդված*

### **Analytic dependence of the Madelung constant on lattice parameters for 2D and 3D metal diiodides (MI<sub>2</sub>) with CdI<sub>2</sub> (2H polytype) layered structure**

V S Harutyunyan

Materials Research Express 2020 026301(1-11)

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*Հոդված*

### **Determination of the complete set of optical parameters of micronized polycrystalline CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub>-xCl<sub>x</sub> films from the oscillating transmittance and reflectance spectra**

Gevorkian Zhyrair, Matevosyan Lenrik, Avjyan Karapet, Harutyunyan Valeri, Aleksanyan Eduard,

Manukyan Khachatur

Materials Research Express 2020 016408(1-7)

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*Հոդված*

### **Correlation of the Madelung constant and I—M—I bonding angle with cohesive energy contributions in layered metal diiodides (MI<sub>2</sub>) with CdI<sub>2</sub> (2H polytype) structure**

Valeri S. Harutyunyan

Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials 2020 1045 - 1054

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*Հոդված*

### **Residual stress on ettringite crystals in expansive cement paste**

V.S.Harutyunyan, A.P.Aivazyan, V.P.Mkrtchyan

Proceedings of the YSU A. Physical and Mathematical Sciences 2017 105-108

<http://www.y-su.am/science/en/journals>

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*Հոդված*

### **Stress field of a near-surface basal screw dislocation in elastically anisotropic hexagonal crystals**

Valeri S. Harutyunyan, Ashot P. Aivazyan, Andrey N. Avagyan

AIMS Materials Science 2017 1202-1219

<http://www.aimspress.com/article/10.3934/matensci.2017.6.1202>

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*Հոդված*

### **Application of Ca(OH)<sub>2</sub> - Comprising Dispersions in CO<sub>2</sub> Capture and Sequestration**

## Technologies

Valeri S.Harutyunyan, Ashot P.Aivazyan

Recent Patents on Materials Science 2015 2-14

<http://benthamscience.com/journals/recent-patents-on-materials-science/>

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Հոդված

### **X-ray Diffraction Investigations of Microstructure of calcium Hydroxide Crystallites in the Interfacial Transition Zone of Concrete**

Valeri S.Harutyunyan, Vahram P.Mkrtchyan, Minas K.Balyan, Ashot P.Aivazyan, Eduard S. Abovyan,

Paulo J.M.Monteiro

Journal of the American Ceramic Society 2003 2162-2166

[http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1551-2916](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1551-2916)

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Հոդված

### **Micro strain distribution in calcium hydroxide present in the interfacial transition zone**

V.S.Harutyunyan, V.P.Mkrtchyan, M.K.Balyan, E.S.Abovyan, P.J.M.Monteyro

Cement and Concrete Research 2000 709-713

<http://www.journals.elsevier.com/cement-and-concrete-research>

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Գիտաժողովի նյութ

### **Strain relaxation in AlN–sapphire (0001) heterostructure**

V.S. Harutyunyan, E.R. Weber

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Գիտաժողովի նյութ

### **Study of microstructural peculiarities and deformation state of ettringite crystals in Type K cement pastes by FTIR spectroscopy, optical microscopy, combined SEM-EDS, and XRD techniques**

V.S. Harutyunyan, A.P. Aivazyan, P.J.M. Monteiro, A.P. Kirchheim, V.P. Mkrtchyan

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