

## Publications

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*Article*

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

Valeri S. Harutyunyan, Ashot P. Aivazyan, Vahram P. Mkrtychyan, Paulo J.M. Monteiro, Ana Paula Kirchheim, Sebastian Prinz

Construction and Building Materials 2023 132892

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*Article*

**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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*Article*

**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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*Article*

**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

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*Article*

**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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*Manual*

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

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

Վալերի Հարությունյան

2021 190

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*Article*

**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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Article

**Analytic dependence of the Madelung constant on lattice parameters for 2D and 3D metal diiodides (MI2) with CdI2 (2H polytype) layered structure**

V S Harutyunyan

Materials Research Express 2020 026301(1-11)

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Article

**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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Article

**Correlation of the Madelung constant and I—M—I bonding angle with cohesive energy contributions in layered metal diiodides (MI2) with CdI2 (2H polytype) structure**

Valeri S. Harutyunyan

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

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Article

**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.ysu.am/science/en/journals>

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Article

**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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Article

**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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Article

**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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Article

**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

*Conference*

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

V.S. Harutyunyan, E.R. Weber

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*Conference*

**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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