Ismail Cevdet Noyan

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I. C. Noyan has been studying the mechanical response of crystalline materials over various length scales using diffraction since 1978. He was one of the first researchers to combine the theory of micromechanics with that of x-ray and neutron diffraction. He and his group develop x-ray and neutron characterization techniques for non-destructive analysis of structures, with applications spanning suspension bridge cables. integrated circuits and nanostructures. Prof. Noyan and his co-workers also work on the theory of scattering, with particular emphasis on defining the information volumes from which diffraction data are measured, and quantification of the uncertainties associated with such data.

Prof. Noyan is a Fellow of the American Physical Society. He has received the Hanawalt and Jenkins Awards from the International Centre for Diffraction Data in 2019 and 2015, respectively, and the Blackall Machine Tool and Gage Award from the American Society of Mechanical Engineers in 2006. During his career at IBM he received two IBM Outstanding Technical Achievement Awards for research and development of computer and packaging structures, one IBM Research Division Award for research on diffusion barriers and 11 IBM Invention Plateaus for filed patents. Prof. Noyan is a member of the organizing committee of the Denver X-ray Conference, and co-editor of the Advances in X-Ray Analysis.

Education

Ph.D: (Materials Science and Engineering) Northwestern University (Evanston, Il.), 1984
B.S.:(Metallurgical Engineering), Middle East Technical University (Ankara, Turkey), 1978.

Recent Publications

"Average and local strain fields in nanocrystals", S. Xiong, S.-Y. Lee and I. C. Noyan, J. Appl. Cryst. 52, 262-273, 2019.
"The nanodiffraction problem", S. Xiong, H. Öztürk, S.-Y. Lee, P. M. Mooney and I. C. Noyan, J. Appl. Cryst.. 51, 1102-1115, 2018.
"Boundary effects in the Eigenstrain Method", Lee, S-Y, Coratella, S, Brügger, A, Clausen, B, Brown, DW, Langer, K, Fitzpatrick, ME, Noyan, IC, Experimental Mechanics, https://doi.org/10.1007/s11340-018-0378-3 , 2018.
"Performance evaluation of Bragg coherent diffraction imaging" Öztürk, H ; Huang, X ; Yan, H; Robinson, IK; Noyan, IC; Chu, YS, New Journal of Physics, 19, Article Number: 103001, DOI: 10.1088/1367-2630/aa83a9; 2017.
"Expected values and variances of Bragg peak intensities measured in a nanocrystalline powder diffraction experiment", Öztürk, H; Noyan, IC, Journal of Applied Crystallography, 50, 1307-1322; 2017.
"Partitioning of Clamping Strains in a Nineteen Parallel Wire Strand", Brügger, A; Lee, SY; Mills, JAA; Betti, R; Noyan, IC , Experimental Mechanics, 57, 921-937, 2017.