

Abstract Submitted  
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**History of “NANO”-Scale VERY EARLY Solid-State (and Liquid-State) Physics/Chemistry/Metallurgy/ Ceramics; Interstitial-Alloys Carbides/Nitrides/Borides/... Powders and Cermets, Rock Shocks, ...** COLIN MAIDEN, EDWARD SIEGEL, failure-PREVENTION-associates (fPa) / Thermalloy-Technology(TAT) / TATL — History of “NANO”: Siegel-Matsubara-Vest-Gregson[Mtls. Sci. and Eng. 8, 6, 323('71); Physica Status Solidi (a)11,45('72)] VERY EARLY carbides/nitrides/borides powders/cermets solid-state physics/chemistry/metallurgy/ ceramics FIRST-EVER EXPERIMENTAL NANO-physics/chemistry[1968 ->Physica Status Solidi (a)11,45('72); and EARLY NANO-“physics”/NANO-“chemistry” THEORY(after: Kubo('62)-Matsubara('60s-'70s)-Fulde ('65); [ref.: Sugano[Microcluster-Physics, Springer('82; '98)] Siegel [(‘70-'73) —>Statphys-13, The Technion, Haifa(1977)-C. Kuper and I, Reiss editors, in Annals Israel Academy of Sciences, volume 2(1978); International Conference on Lattice-Dynamics, Paris('77)-M. Balkanski editor, Flammarion('78); International Conference on Magnetic Alloys and Oxides(“ICMAO”), The Technion, Haifa('77)-A. Hirsh and G. Barnea editors, in Journal of Magnetism and Magnetic Materials (JMMM 7, 312) (1978){where Siegel FIRST EXPERIMENTAL DISCOVERY of granular-giant-magnetoresistance(GMR)[JMMM 7, 312('78)] and FIRST THEORETICAL PREDICTION of colossal-magnetoresistance(CMR)[JMMM 7, 338('78)]]; Semiconductors and Insulators 5: 39,47,62('79)=THREE-contiguous-papers!!!; Scripta Metallurgica 13, 913('79)], AIP Shock-Physics Meetings: Chicago('11); Seattle('13); Tampa('15); ...

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