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Low Energy Nuclear Reaction Products at Surfaces DAVID J. NAGEL, The George Washington University — This paper examines the evidence for LENR occurring on or very near to the surface of materials. Several types of experimental indications for LENR surface reactions have been reported and will be reviewed. LENR result in two types of products, energy and the appearance of new elements. The level of instantaneous power production can be written as the product of four factors: (1) the total area of the surface on which the reactions can occur, (2) the fraction of the area that is active at any time, (3) the reaction rate, that is, the number of reactions per unit active area per second, and (4) the energy produced per reaction. Each of these factors, and their limits, are reviewed. A graphical means of relating these four factors over their wide variations has been devised. The instantaneous generation of atoms of new elements can also be written as the product of the first three factors and the new elemental mass produced per reaction. Again, a graphical means of presenting the factors and their results over many orders of magnitude has been developed.

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