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John Hadji Argyris (1913–2004) and the Computational Structural Analysis in the British Aircraft Engineering in the Mid-20th Century.

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Abstract

This work deals with the context of formation of Professor Dr. John Hadji Argyris (1913-2004) in Germany during the 1930s and Switzerland during the 1940s. Using primary documentation, we elucidate publications with scientific theories of structural analysis made during his job as a member of a secret Commission in the Royal Aeronautical Society, in England. We explore the content of the serial publication of the *Theorems of Energy and Structural Analysis* of the *Aircraft Engineering Journal*, from 1954 and 1955, from Argyris's lectures at Imperial College, London, where he was a professor and director of the Department of Aeronautical Structures. The goal of this research is to analyze the systematic method of calculation of Argyris, starting from the theory of Computational Simulation. From this point of view, the conceptual mathematical model would be a computational model based on the unification of the concepts of Elasticity Theory and Energy Theorems formulated in matrix mathematics for communication with the computer.

Keywords

History of Science; Matrix Method; Finite Elements; Computational Simulation; Elasticity Theory

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