Professor Peter Grassmann

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LAUDATIO

PETER GRASSMANN 65 YEARS OLD

ON THE 13th of August 1972 Professor Peter Grassmann the Director of the Institute of Process and Low Temperature Engineering at the Swiss Federal Institute of Technology in Zurich will be celebrating his sixty-fifth birthday.

Peter Grassmann was born in Munich in 1907 and studied experimental physics at the University there under Professors W. Wien and W. Gerlach. He completed his studies with a dissertation on aqueous nitrate solutions. Following this he worked at the Physikalisch-Technische Reichsanstalt in Berlin under Professor Walter Meissner. There he was mainly interested in problems of Low Temperature Physics, and particularly superconductivity. In Spring 1937 he joined the firm Adolf Messer GmbH. in Frankfurt am Main. Here he came into close contact with the technical applications of cryogenic engineering, and of heat exchange and mass transfer. He was in charge of the design office for Air- and Gas Separation, and was leader of the physical laboratory, in addition he was responsible for the starting up of larger new installations.

In 1950 Dr. Grassmann accepted an invitation to join the Swiss Federal Institute of Technology in Zurich (ETH) as full professor for thermal apparatus and cryogenics. At the ETH Professor Grassmann devoted himself wholeheartedly, in spite of many difficulties, to organizing the teaching and consolidating his Institute. At first problems of heat exchange and low temperature physics were the main research interests, and within a short time a helium-laboratory was founded and attached to the Institute under the leadership of Dr. Olsen.

With time Professor Grassmann's field of research was extended more and more into the area of fundamental research in the field of process engineering. In particular he always emphasized the importance of considering the basic physical mechanisms when studying more complex phenomena. In this sense he applied his efforts to including the whole field of process engineering as well as that of thermal apparatus and cryogenics in the curriculum of the ETH. This was finally achieved after years of intensive efforts when in 1970 this subject was finally included as a main direction of study in the faculty of mechanical engineering. During the same period the Institute moved to a well equipped new building and the number of faculty members belonging to the Institute was increased by an Assistant Professorship (1967) and a second chair (1971). In the years 1964–1968 Professor Grassmann was Dean of the Faculty of Mechanical Engineering.

As a consequence of his great interest in the most varied fields associated with process engineering Professor Grassmann has been able to contribute to this with an extensive scientific output. His wide range of research results have been published in approximately 200 papers. After the investigations on the Raman effect and superconductivity these were followed by work on gas liquefaction, and general laws of thermodynamics. Then in connection with his teaching at the ETH came papers on fundamental problems of process engineering such as the investigation of physically important single mechanisms in technical apparatus. Here the weight is in particular centred on heat- and mass exchange, and the behaviour of fluid phases (two phase flow). The development of new advanced methods of measurement was often a result. Thus new methods were described for measuring the thermal conductivity, mass transfer, and most recently for investigating two phase flow. His work on process engineering and biology and medicine point to interesting aspects and have given new impulses in various areas.

The extended investigations on the basic physical mechanisms in process engineering have also had their influence on Professor Grassmann's book "Gundlagen der Chemie-Ingenieurtechnik" (Sauerländer 1961). This is the first book in which the fundamental physical effects such as heat-, mass- and momentum transfer and the hydraulics of liquid phases are found in close connection with process engineering. The importance of this work can be seen from the wide distribution it has found. This includes translations into English and Spanish. A second edition has already appeared. In this connection we should also mention his book "Einführung in die thermischen Trennverfahren" which has been published with some of his collaborators as co-authors.

As a result of this extensive scientific activity Professor Grassmann has been honoured by many academic bodies. Thus he is an honorary member of German Engineering Society (VDI), Frankfurt section and of the German Cryogenic Society (Deutscher Kältetechnischer Verein). In addition he was given the Arnold Eucken-Medal of the VTG in 1967.

We extend Professor Grassmann all our best wishes for the coming years and in particular further success and satisfaction in his scientific activity. It is a pleasure for his students to give him their heartiest congratulations.

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