

PERSONALITIES FROM THE MERIDIANS OF THE ENGINEERING UNIVERSE

Plauțius Andronescu, a Romanian – pioneer in world electrotechnics

The history of electrotechnics is long, and a lot of Romanians contributed to its writing. One of these, considered to be the founder of Romanian theoretical electrotechnics school, has brought remarkable contributions to improving the asynchronous electrical motors which help moving many of the installations that form part of our daily lives: elevators, moving staircases, trams and many more.

Short biography

Plauțius Andonescu was born on the 10th of December 1893 at Zürich. Although his parents, Nicolae și Maria Andronescu, were from Bârlad,



Plauțius was born at Zürich where his father was a student. The family came back in Bârlad in 1898 where Plauțius graduated primary school. It is mentioned that in 1980 Ștefan Procopiu was born in Bârlad. The two might have met in Bârlad.

He attended secondary school at "Matei Basarab" High school from București, which he graduated in 1913. Due to the fact that his father died when he was a IIIrd year high school student, he is forced to teach private mathematics lessons. He also worked as a supervisor at the high school.

In the fall of 1914 he got a scholarship and he went to attend the university courses at the Federal School from Zürich. Although the war had broken out, the neutral Switzerland provides a proper studying climate for the hundreds of students come from all over Europe and the United States of America.

He was remarked by professor Karl Kuhlmann, known as a savant in theoretical electrotechnics and by professor, a Slovakian, a practitioner and scientist, who formed him as a professional in modern theory of electromagnetism and from whom he acquired many of experimental techniques used in ulterior researchers.

Assistent at Zürich - Switzerland

He graduated the Federal Polytechnics School from Zürich and he got his B.A. engineer diploma on the 2nd of July 1918, then he got a job as an engineer at the factory of "Oerlikon" Electric Machines where he worked for a year, until the 31st of May 1919.

Between 1919 - 1923 he worked as an assistant at the Federal School of Zürich. In 1922 he got his Ph.D. diploma in technical science with the thesis entitled *Parasite couples in asynchronos with the rotor in short circuit*. In this thesis he presents theoretical and practical solutions in order to reduce the wrong effects in using this type of electrical machine. We have to mention that the asynchronous motor had been invented by Nikola Tesla in 1887, namely only 35 before. The thesis was published in "Archiv für Elektrotechnik", a journal known all over the world, becoming one of the most respectable specialists in the theory of electromagnetic field applied to electrical machines and he receives in 1924 the "Vania Legendi" medal for electrotechnics and "Privatdozent" title which correspond to the reader in universities. The solutions proposed by Plauțius Andronescu were later used in building asynchronous electrical motors.

Professor at Timișoara

At the beginning of the XX-th century, the electrotechnics industry developed a lot, and the mechanical drives were replaced by electric drives. In our country, the Polytechnics School in Timisoara didn't have a professor in electrotechnics. Professor Dimitrie Leonida, whose name is given nowadays to the Technical Museum from Bucharest, read his papers and he proposed to him to teach at the Electrotechnics Department from Timișoara. Thus, at the 10th of November 1925, Plauțius Andronescu became the head of the Electrotechnics and Electricity Department which he led for 40 years. Preoccupied by the quality of his classes, he completed his courses every year with the latest theoretical and practical achievements and he bought the most recent machines for his labs. The students admired him, but, at the same time, they were afraid of the exam which was very rigorous scientifically and methodologically. One of his students, Dan D. Farcaș remembered that: „*Andronescu was that kind of professor who was happy to see his students preoccupied by new interesting problems, encouraging them, without interfering in their*

activity” and “that was said he had introduced in Romania, first time in Timisoara, the vectorial measurements used in electrotechnics, measurements that arrived in Bucharest with the help of his student Remus Răduleş...“.

Practician Engineer

He set up in 1927 the first lab for high tension from Romania.

His preoccupation for practical activity is demonstrated by the jobs he had in parallel with his academic career. Thus, during 1923 - 1925, he worked as an engineer at the Metallurgic Plants from Dornach and at the Fabric of Electric Cables from Cossonay. One problem the builders of Swiss electrification network had, namely the network boxes exploded, was solved by Plauşius Andronescu, who applied the method of conform transformations, so that the electric field was evenly distributed in the box. Then, between 1925-1929 he was technical manager of the first factory of electrical machines from Romania, Energis, and between 1929-1931 he was the general manager of Post-Telegraph-Phone (PTTR) from Bucharest.

For his merits as a practician engineer, he was elected in 1925 member of Association of Councilor Engineers from Bruxelles, he was also member of the Electrical Committee of Romanian Railways for Cămpina- Braşov, he was president of the Receiving Commission of the materials from Gas and Electricity General Society. He was a full member of the Romanian Science Academy and member of the International Federation of Engineers.

Research Engineer.

The theoretical results of Plauşius Andronescu were published in scientific journals from Europe and the United States, in scientific books and were presented in scientific conferences. His presence is mentioned at the Mathematics Congress organized at Cluj in 1929 and at the Balkanic Mathematics Congress from 1937. He was an active presence at the congresses of the Romanian Committee of Eletrotechnics organized in 1931, 1932, 1934. In 1932 he participated at the International Congress of Electricity from Paris with the paper entitled „A Unitary Representation of the Functioning of Electrical Machines”, and in 1937 he shared his results at the Congress of Electrical Energy Producers which was organized at Cernăuţi. After 1950 he channeled his researches on electrical circuits with operational calculus, and the results were written in the book entitled „The Use of Operational Calculus in electric circuits”,

published in 1957 and „The Basics of Electrotechnics”, published in 1972 in two volumes. In his last period of life, he was preoccupied by new electrotechnic materials, and a large part of his studies were about Hall semiconductor generator.

He also made some researches in the domain of variation calculus and deformation of material due to its elasticity.

Gologotaconquered.

Between 1941-1944, Plauşius Andronescu was Rector of Polytechnics School from Timişoara . He also was the president of Romanian-German friendship Association. His enemies used this position in order to admit him in the prison camp from Caracal after 1944. His moral attitude during that period forced th authorities to release him. He came back at University and he continued his teaching and research activity.

He passed away on the 4th of November 1975 in Timişoara.

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