

A Word from Our Editor-in- Chief

THE TECHNOLOGIES OF THE FUTURE OR OF THE PRESENT ?

Editor-in-Chief

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The dimensional processing technologies known as “*Processing technologies with concentrated energies*” or “*nonconventional technologies*” can be characterized by an exceptional dynamic of usage, maybe the highest of all the technologies applied in mechanical engineering.

Practically, these new technologies have undergone in approximately 60-70 years all phases, from “inventing” them up to the extended industrial usage, presently becoming alternative technologies, complementary to the classical technologies.

At the basis of these new technologies are the elementary mechanisms with interconnection – sometimes surprising – that have a completely different “legislation” to the classical considered technologies. Knowing, handling and effectively directing these elementary mechanisms constitute the premise of a rational and rapid development of the technological systems and of the application technologies.

Practically, knowing the phenomenology, the physical mechanisms that are at the basis of different nonconventional processing procedures, represents the necessary condition for them to obtain an applicability as extended as possible and thus, to go beyond the nonconventional field and to become, both to the researchers and the users, something customary.

It is also the reason why for the first time in world literature and the Romanian literature, there is a systematic and complete approach of the exclusive presentation of the elementary physical mechanisms with the connections and interdependencies specific for all procedures of dimensional processing with concentrated energies.

Of course that with these phenomenological synthesis presented in the specialized literature it was permanently taken into consideration the applicative aspect of using each procedure highlighting how one or the other elementary phenomena influences the final technological characteristics.

Necessary to mention that at the phenomenological presentation of the nonconventional processing procedures which are found in the scientific papers the recognized and accepted theories,

as well as some new theoretical options that require further study and research in order to be validated but that complete the “blanks” existing in the already admitted theories, have been presented.

Because out of all of the nonconventional processing procedures, the one by electrical erosion is the most developed one from all points of view – both by the almost complete knowledge of the intimate processes, that with the specific interconnections lead to the material removal and the special development of the necessary technologies respectively of the execution technology - the main focus of some authors addressed this procedure.

The review addresses all those who want to enrich their knowledge with the basic elements of these alternative technologies. Specialists can find in this number an extended and concentrated presentation of some fundamental information that can generate systematic and qualitative approaches of different procedures. The review represents an essential bibliographical material for all interested students, but for field specialists, too.

This review number represents a humble contribution to the raising of the scientific level of knowledge in the field of dimensional processing technologies with concentrated energies.

The review represents “a continuation” and in no way an end. For this reason the authors of the scientific papers are grateful for any suggestion that can improve – *qualitative* and quantitative – the information regarding the physical-chemical elements of the dimensional processing procedures by nonconventional technologies, but the rest of the scientific information of high topicality presented, too.
