

# A LETTER TO ACADEMICIAN ANDREI ȚUGULEA

MIHAI OCTAVIAN POPESCU

Each job has specific requirements and a physical reality that defines it, and to which it is held accountable.

For instance, mechanical engineering takes care of structures and mechanical machines, medicine works with the anatomy and fiziology of the human body, biology with cellular structures, plants, animals and so on.

From this point of view, electrical engineering deals with the application of electricity and the fundamental physical reality is represented by the interaction of the Electromagnetic Field with other bodies, as Academician Andrei Țuglea said [1].

So how many dimensions does electrical engineering have?

Let's first assume that it has one...

That is false because if it were true, people specialized in the field would be called electromagnetic philosophers...

The philosophers promoted the idea of the unidimensional man...

So let's then assume that it is bidimensional...

It's also wrong because the people specialized in this field would then be called electromagnetic agronomist, because the essence of agronomy is the two dimensional space, the field with  $x$  and  $y$  surfaces.

So let's say it has three dimensions...

That would also be wrong, because the people who specialize in this field would be called electromagnetic architects, because architects' main skill is their ability to imagine things in three dimension, their imagination being a volumetric one...

Finally, let's say that it uses four dimensions ( $x, y, z, t$ ).

That it also incorrect because they would be called electromagnetic astronomers. We can all agree that astronomers study star systems spread in space and time.

This all means, that the job we are talking about, has many more sides to it and therefore a high degree of complexity, even though it's name is quite easy to remember, ELECTRICAL ENGINEERING, as Professor Andrei Țugulea has just shown us...

A.Țugulea, *Câmpul electromagnetic ?* (Electromagnetic field?), Edit. AGIR, Bucharest, 2011.