$2\vec{B}$ or not $2\vec{B}$?

P. Pierański

Poznań University of Technology, Nieszawska 13A, 60-965 Poznań, Poland

For many of us the marvellous experience a magnet attracting an iron nail was the first impulse that made us to think about becoming physicists. The understanding that it is not the magnetic field itself but its inhomogeneity that is responsible for the attraction came later, at the lectures on electrodynamics. But no matter how much we know about it from the theoretical point of view, magnetic field remains a source of never ending, childish curiosity. Many years spent in physical laboratories do not remove the feeling of touching a mystery, when approaching a steel wall with a held in hand modern neodymium magnet we experience its power. In such moments we start to ask ourselves many questions. Are there in nature stronger magnetic fields? If so, where are they? Which is their magnitude? Magnetic field has a distinct influence on matter, but does it have any influence on the vacuum? Are the living organisms able to detect the magnetic field? Is it of any use for them? (For instance, can it make a frog fly?) Which is the source of the magnetic field of Earth? Is its existence of any importance to the life of *homo sapiens sapiens*? Could we live on the Earth surface if it were not surrounded by the magnetic field? And so on ...

It is the aim of this after dinner speech to draw the attention of the audience to such questions and provide answers to some of them.

Name of the presenting author (invited, an after dinner speech): Piotr Pierański
e-mail address: pieransk@man.poznan.pl
http://fizyka.phys.put.poznan.pl/~labo/LabPhysSens.html