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**World of Waves and Vibrations**

Waves and vibrations govern the real world. And may be, the not-real world, too. But this is out of the domain of science.

Almost everything we feel with our senses and every signal which is found by any sensors is realized by means of waves and vibrations. Communication and thus exchange of information by any means depends on wave propagation.

Even life on earth depends on energy input from the sun and thus from waves coming from there within a special frequency-domain.

Engineering, too, is governed by vibrations. In civil engineering we have to deal with wave propagation in the soil due to traffic induced vibrations or due to impacts from construction like blasting or compacting of soil.

We have to deal with excitations due to wind, earthquake, people moving in any way, explosions, rotating machinery, impact of water-wave on offshore constructions and so on.

In environmental engineering we have to analyse the propagation of noise and of contaminated material in air, water and soil: all this can be described by models with wave-like solutions.

In this lecture typical situations will be shown by means of short movies or some nice pictures and the fundamental dynamics will be explained. All this without any formulas.

It starts with waves we can see, hear, see-and-hear- and eat, shows the whole field of electromagnetical waves from statics, along the visible light up to x-rays and further on.

And ends with listening into a domain which impressed people since thousands of years.

It's only a lecture to enjoy; any special knowledge to understand what is shown is not necessary.