



From amber and lodestone to radio science: the fascinating history of electromagnetism and its applications

Ari Sihvola
Aalto University School of Electrical Engineering
Department of Electronics and Nanoengineering
Finland

Abstract: Radio science has its basis in physics of electricity and magnetism, phenomena which have excited the imagination of humans for centuries. Electromagnetism and its applications have revolutionized our understanding of nature from nanoscale to cosmological dimensions. In the General lecture, I will take a diachronic look at the historical developments on this path towards modern radio science. We will meet people starting from Classical antiquity (Thales of Miletus and the Roman sage Lucretius), through Middle Ages (Petrus Peregrinus of Maricourt) and the era of quantitative understanding of the laws of electromagnetics (Gilbert, Coulomb, Volta, Oersted, Faraday, Maxwell), into the beginnings, one hundred years ago, of our Union of Radio Science.