



Contribution ID: 15

Type: **not specified**

Francesco Zantedeschi and Macedonio Melloni: a dispute in the history of Italian electrostatics

Tuesday, September 7, 2021 10:20 AM (20 minutes)

Francesco Zantedeschi (1797-1873) taught Physics and Mathematics at Royal Lyceum “S. Caterina” of Venice from 1838 to 1849. He subsequently held the chair of Physics at University of Padua, where he remained until 1857. He dealt with various research topics, from Optics to Photography, from Acoustics to Meteorology. He also wrote a *Trattato di fisica elementare* (1843-1846). He was a tireless experimenter and the inventor of original instruments. Much of his research concerned Electricity and Magnetism. Zantedeschi eliminated imponderable fluids from physics. Following Ambrogio Fusinieri, he argued that all phenomena required physico-chemical reactions carried out in matter. He considered electricity as priority effect of the movement of matter particles; light and heat as secondary effects. In order to explain electrostatic phenomena he took up concepts of “vindictive electricity”(elettività vindice) and “pressure atmospheres”(atmosfera di pressione) used by Beccaria and Volta.

In 1854 he attacked Macedonio Melloni, who had proposed to reformulate classical electrostatics, reinterpreting some experiences with the principles set out by Faraday. Zantedeschi expounded a third explanation of electrostatic induction phenomena. He devised a new electroscope to prove his idea.

This dispute allows us to grasp the variety of aspects of Italian electrostatics research in the second half of the 19th century.

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Session Classification: From the late 17th to 19th century

Track Classification: sisfa 2021