



The History of URSI Commission B

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This paper reviews the history of what is now Commission B of the International Union of Radio Science (Union Radio-Scientifique Internationale: URSI). It is based on and draws heavily from a similar paper given at the 2019 URSI EM Theory Symposium in San Diego.

URSI was initially organized with four Scientific Commissions [1]: I. Measurement Methods and Standardization, II. Wave Propagation, III. Atmospheric Disturbances, and IV. Cooperation with Radio Amateurs. The scientific area covered by Commission B was not really addressed by any of these. However, in 1928 a fifth Commission, Radiophysics, was formed. It did address many of the basic electromagnetics aspects covered by Commission B's Terms of Reference. The Commissions were reorganized at the Stockholm General Assembly in 1948, resulting in the creation of Commission VI, Radio Waves and Circuits. This Commission did include most of the work covered by Commission B [2]. URSI Commission B, Fields and Waves, came into existence when URSI was reorganized at the 1975 Lima, Peru, General Assembly [3].

The early evolution of Commission B was strongly influenced by the significant scientific personalities who led the Commission through its various stages. Balthasar Van der Pol, who had been in charge of the Commission on Radiophysics, became the Chair of Commission VI when it was formed in 1948. His recognition of the importance of the then-new field of information theory helped focus the attention of the Commission in that area, and led to significant growth [2]. Lester C. Van Atta became Chair at the 1952 General Assembly, but had to resign the following year and was replaced by Samuel Silver. He remained Chair until the 1960 General Assembly, when J. Loeb succeeded him. Jean Van Bladel was the first Chair of the new Commission B in 1975.

Commission B's history is inherently joined to its URSI Symposium on Electromagnetic Theory (which has undergone several name changes). This began with a joint effort of Commission VI from the US and Canadian National Committees of URSI in 1953 [3]. This conference was titled the Symposium on Microwave Optics, held at McGill University, June 22-25, 1953. Sixty-seven papers were presented at the conference, including the first presentation of Keller's Geometrical Theory of Diffraction. The conference expanded to a full URSI Commission VI Symposium on Electromagnetic Wave Theory in 1955, under the leadership of Sam Silver. This was held at the University of Michigan, Ann Arbor, June 20-25. Commission VI sponsored the Symposium on Electromagnetic Theory at the University of Toronto, June 15-20, 1959. From 1959 on, the symposium has been regularly held every three years. The title has varied slightly until 1983, at which point it stabilized to Symposium on Electromagnetic Theory. From its founding in 1953, the new research presented at the symposium shaped the Terms of Reference and topics discussed in Commission VI and Commission B, and likewise the papers presented at the symposium reflected the results from the areas of greatest interest to the Commission.

References

- [1] J. Van Bladel, "The Early History of URSI," Gent, Belgium, URSI.
- [2] S. Silver, "Radio Waves and Circuits," in URSI, *Golden Jubilee Memorial*, Brussels, 1963, Chapter VI, pp. 104-112.
- [3] T. B. A. Senior, "The Commission B Electromagnetic Theory Symposia," *IEEE Antennas and Propagation Magazine*, **35**, 6, December 1993, pp. 26-28