

## 50 Years After the Serentipitious Discovery: Jupiter as Radio Planet

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Bernie Burke and Ken Franklin submitted a paper to JGR entitled "Observations of a variable radio source associated with the planet Jupiter", in April 1955, which was published in June 1955 in Vol. 60, p. 213. This serentipitious discovery was the starting point of a new era of space research objectives resulting in the discovery of the five radio planets Earth, Jupiter, Saturn, Uranus, and Neptune, the latter Giant Planets' radio emissions primarily observed in-situ by the famous Voyager 1 and 2 spacecraft. Investigations of the Jovian radio emissions over the past half a century climaxed in the simultaneous observations by Galileo in orbit around Jupiter and Cassini/Huygens passing by Jupiter on the way to Saturn, on the turn of the millennium, in December 2000. With the vantage point of close-ups by the various spacecraft (Voyagers, Ulysses, Galileo, Cassini) and the continuous ground-based observations we have obtained a unique and fascinating picture of Jupiter, generating and emitting a zoo of radio waves in a wide frequency band, originating in different magnetospheric regimes with a variety of spectral structures. It is the competence of ground-based radio telescopes - in a combination of large antenna arrays and hightech backend facilities - to zoom into the fundamental spectral structures of millisecond radio bursts, and yielding an impression of the inherent basic magnetospheric processes which lead to the generation and emission of non-thermal planetary radiation. The presentation will give an overview of the development during the last decades and the most recent findings.