Foreword by *Norman F. Ramsey*

Studies of atomic hydrogen have been great sources for scientific discovery because of that atom's simplicity. These discoveries began with the Balmer series in 1885 and include atomic structure, early quantum theories of the atom, Dirac relativistic quantum mechanics, the anomalous magnetic moment of the proton (suggesting an internal structure of the proton) and observations of failures of the Dirac theory to correctly predict the hydrogen hyperfine structure, fine structure and anomalous magnetic moment of electron. These failures stimulated the development of the first successful relativistic Quantum Electrodynamics (QED) with renormalization and the first successful gauge field theory.

The delightful and scientifically exciting conference, *Hydrogen Atom 2*, in Italy on the Tuscan coast showed that experimental studies of atomic hydrogen and closely related atoms continue to be sources of new fundamental information, as shown by the reviews and progress reports in this edition.

The absolute frequency of the fundamental $1S - 2S$ transition in atomic hydrogen has now been measured to 1.8 parts in 10^{14}, an improvement by a factor of 10^4 in the past twelve years. This improvement was made possible by a revolutionary new approach to optical frequency metrology with the regularly spaced frequency comb of a mode locked femto-second multiple pulsed laser broadened in a non-linear optical fiber. Optical frequency measurement and coherent mixing experiments have now superseded microwave determination of the $2S$ Lamb shift and have led to improved values of the fundamental constants, tests of the time variation of the fine structure constant, tests of cosmological variability of the electron-to-proton mass ratio and tests of QED by measurement of $g-2$ for the electron and muon.

After years of pioneering efforts atomic hydrogen has now been successfully cooled to a sufficiently low temperature for Bose–Einstein Condensation (BEC) and high precision spectroscopy.

With the recent advances in atomic theories and experimental techniques, the value of the information obtained from studies of atoms that are different from but similar to atomic hydrogen have increased. These studies include atomic helium, muonic hydrogen, positronium, muonium, antihydrogen, moderate Z ions, high Z ions, antiprotonic atoms and muonic atoms.

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October 2000

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