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Altri autori (Persone)	DalgarnoA BabbJames F KirbyKata SadeghpourHossein R. <1958->
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Note generali	"On September 10, 2008, more than 125 friends, colleagues ... to join Professor Alex Dalgarno in celebrating his 80th birthday ... A symposium highlighting Dalgarno's many scientific contributions ..."-- Preface.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Session I. : Calculations of atomic and molecular properties. The transition from mathematician to astrophysicist / M. R. Flannery. Calculations of atomic and molecular properties / G. W. F. Drake. An elastic approximation for spin flipping transitions in collisions of hydrogen atoms / B. Zygelman. Matrix element sums evaluated via differential equations in calculations of atomic and molecular properties / Michael Jamieson. Linear response time dependent density functional theory for dispersion coefficients between atomic pairs / Xi Chu and G. C. Groenenboom -- Session II. : Astrochemistry. Some

thoughts on interstellar chemistry / William Klemperer. Astrochemistry : building on Dalgarno's legacy / Ewine F. van Dishoeck. Atomic and molecular probes for astronomical environments / Stephen H. Lepp. H [symbol] photodetachment in atomic physics and astrophysics / P. C. Stancil ... [et al.]. Astrochemistry : an unfinished symphony / John H. Black -- Session III. : Interstellar medium and molecular astrophysics. Still more thoughts on interstellar chemistry / Patrick Thaddeus. How interstellar chemistry (and astrochemistry more generally) became useful / T. W. Hartquist, S. van Loo, and S. A. E. G. Falle. Atoms, molecules, and radiation : from star-forming regions to quasars / A. Sternberg. Molecular astrophysics with the Spitzer space telescope : studies of interstellar shocks / David A. Neufeld. A common origin for interstellar CH⁺ and H⁺ [symbol] / Cesare Cecchi-Pestellini -- Session IV. : Atomic and molecular processes in the solar system and planetary atmospheres. Alexander Dalgarno / Jane L. Fox. Atomic and ,molecular processes in the solar system and planetary atmospheres : an overview and some examples / T. E. Cravens. Approach to thermal equilibrium in atomic collisions / Peng Zhang and Vasili Kharchenko. Heliospheric x-rays induced by charge-exchange collisions / V. A. Kharchenko -- Session V. : ultra-cold collisions/long-range interactions. A tribute to Alex's leadership and support : the examples of model potentials and cold molecules / Françoise Masnou-Seeuws. Photoassociation of ultracold atoms / R. G. Hulet. Forming ultracold molecules / Robin Cote. Quantum theory of atomic and molecular scattering based on the fully uncoupled space-fixed representation / R. V. Krems. Collisions and reactions in ultracold gases / N. Balakrishnan -- Session VI. : Undergraduate collaborations. The HFS of H[symbol] : electron-nuclear coupling of spins and momenta / James F. Babb. Molecular clouds and chemistry beyond the milky way / Jean L. Turner. Atom-optical analogs of electronic components and devices / R. A. Pepino ... [et al.]. Quantum metrology and simulation / J. M. Taylor -- Session VII. : ITAMP history and highlights. The beginnings of ITAMP - proposals from the AMO community and the NSF response / R. H. Pratt. History of ITAMP : part II - The institute strikes back / Barry I. Schneider. ITAMP history : part III. Symposium dinner speech / Neal Lane.

Sommario/riassunto

This unique volume is a compendium of scientific contributions inspired by the work of Alex Dalgarno in the fields of atomic, molecular, and optical physics, astrophysics, astrochemistry, and atmospheric physics. The book should be of particular value to the practitioners in these fields.