

Abstract Submitted
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Ettore Majorana and the birth of autoionization ENNIO ARI-MONDO, Dipartimento di Fisica E. Fermi, Università di Pisa, CHARLES W. CLARK, Joint Quantum Institute, National Institute of Standards and Technology and University of Maryland, WILLIAM C. MARTIN, National Institute of Standards and Technology — In some of the first applications of modern quantum mechanics to the spectroscopy of many-electron atoms, Ettore Majorana in 1931 solved several outstanding problems by developing the theory of autoionization [1]. Later literature makes only sporadic references to this accomplishment. After reviewing his work in its contemporary context, we describe subsequent developments in understanding the spectra treated by Majorana, and extensions of his theory to other areas of physics. We find several puzzles concerning the treatment of Majorana's work in the subsequent literature and the way in which the modern theory of autoionization was developed.

[1] The relevant papers are those numbered 3 and 5 in the convenient collection, *Ettore Majorana Scientific Papers: On the occasion of the centenary of his birth*, ed. G. F. Bassani *et al.* (SIF, Bologna 2006), where they are accompanied by English translations and commentary. The originals are, respectively, “I presunti termini anomali dell’elio,” E. Majorana, *Il Nuovo Cimento* **8**, 78 (1931) and “Teoria dei tripletti P' incompleti,” E. Majorana, *Il Nuovo Cimento* **8**, 107 (1931).

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