

# C O N T E N T S

Preface vii

PAPERS	PAGE
1 P.A.M. Dirac THE QUANTUM THEORY OF THE EMISSION AND ABSORPTION OF RADIATION <i>Proceedings of the Royal Society of London, Series A, Vol. 114, p. 243 (1927)</i>	1
2 Enrico Fermi SOPRA L'ELLETTRODINAMICA QUANTISTICA <i>Atti della Reale Accademia Nazionale dei Lincei, Vol. 12, p. 431 (1930)</i>	24
3 P.A.M. Dirac, V. A. Fock, and Boris Podolsky ON QUANTUM ELECTRODYNAMICS <i>Physikalische Zeitschrift der Sowjetunion, Band 2, Heft 6 (1932)</i>	29
4 P. Jordan and E. Wigner ÜBER DAS PAULISCHE ÄQUIVALENZVERBOT <i>Zeitschrift für Physik, Vol. 47, p. 631 (1928)</i>	41
5 W. Heisenberg ÜBER DIE MIT DER ENTSTEHUNG VON MATERIE AUS STRAHLUNG VERKNÜPFTEN LADUNGSSCHWANKUNGEN <i>Sachsische Akademie der Wissenschaften, Vol. 86, p. 317 (1934)</i>	62
6 V. S. Weisskopf ON THE SELF-ENERGY AND THE ELECTROMAGNETIC FIELD OF THE ELECTRON <i>Physical Review, Vol. 56, p. 72 (1939)</i>	68
7 P.A.M. Dirac THEORIE DU POSITRON <i>Rapport du 7<sup>e</sup> Conseil Solvay de Physique, Structure et Propriétés des Noyaux Atomiques, p. 203 (1934)</i>	82

- 8 V. S. Weisskopf ÜBER DIE ELEKTRODYNAMIK DES VAKUUMS AUF GRUND DER QUANTENTHEORIE DES ELEKTRONS  
*Kongelige Danske Videnskabernes Selskab, Matematisk-fysiske Meddelelser XIV, No. 6 (1936)* 92
- 9 F. Bloch and A. Nordsieck NOTES ON THE RADIATION FIELD OF THE ELECTRON *Physical Review, Vol. 52, p. 54 (1937)* 129
- 10 H. M. Foley and P. Kusch ON THE INTRINSIC MOMENT OF THE ELECTRON *Physical Review, Vol. 73, p. 412 (1948)* 135
- 11 Willis E. Lamb, Jr. and Robert C. Retherford FINE STRUCTURE OF THE HYDROGEN ATOM BY A MICROWAVE METHOD  
*Physical Review, Vol. 72, p. 241 (1947)* 136
- 12 H. A. Bethe THE ELECTROMAGNETIC SHIFT OF ENERGY LEVELS  
*Physical Review, Vol. 72, p. 339 (1947)* 139
- 13 Julian Schwinger ON QUANTUM-ELECTRODYNAMICS AND THE MAGNETIC MOMENT OF THE ELECTRON  
*Physical Review, Vol. 73, p. 416 (1948)* 142
- 14 Julian Schwinger ON RADIATIVE CORRECTIONS TO ELECTRON SCATTERING *Physical Review, Vol. 75, p. 898 (1949)* 143
- 15 J. R. Oppenheimer ELECTRON THEORY  
*Rapports du 8<sup>e</sup> Conseil de Physique, Solvay, p. 269 (1950)* 145
- 16 S. Tomonaga ON A RELATIVISTICALLY INVARIANT FORMULATION OF THE QUANTUM THEORY OF WAVE FIELDS  
*Progress of Theoretical Physics, Vol. I, p. 27 (1946)* 156
- 17 Julian Schwinger QUANTUM ELECTRODYNAMICS, III: THE ELECTROMAGNETIC PROPERTIES OF THE ELECTRON—RADIATIVE CORRECTIONS TO SCATTERING  
*Physical Review, Vol. 76, p. 790 (1949)* 169
- 18 S. Tomonaga ON INFINITE FIELD REACTIONS IN QUANTUM FIELD THEORY *Physical Review, Vol. 74, p. 224 (1948)* 197
- 19 W. Pauli and F. Villars ON THE INVARIANT REGULARIZATION IN RELATIVISTIC QUANTUM THEORY  
*Reviews of Modern Physics, Vol. 21, p. 434 (1949)* 198
- 20 Julian Schwinger ON GAUGE INVARIANCE AND VACUUM POLARIZATION  
*Physical Review, Vol. 82, p. 664 (1951)* 209
- 21 R. P. Feynman THE THEORY OF POSITRONS  
*Physical Review, Vol. 76, p. 749 (1949)* 225

<b>22</b>	R. P. Feynman SPACE-TIME APPROACH TO QUANTUM ELECTRODYNAMICS <i>Physical Review</i> , Vol. 76, p. 769 (1949)	236
<b>23</b>	R. P. Feynman MATHEMATICAL FORMULATION OF THE QUANTUM THEORY OF ELECTROMAGNETIC INTERACTION <i>Physical Review</i> , Vol. 80, p. 440 (1950)	257
<b>24</b>	F. J. Dyson THE RADIATION THEORIES OF TOMONAGA, SCHWINGER, AND FEYNMAN <i>Physical Review</i> , Vol. 75, p. 486 (1949)	275
<b>25</b>	F. J. Dyson THE S-MATRIX IN QUANTUM ELECTRODYNAMICS <i>Physical Review</i> , Vol. 75, p. 1736 (1949)	292
<b>26</b>	P.A.M. Dirac THE LAGRANGIAN IN QUANTUM MECHANICS <i>Physikalische Zeitschrift der Sowjetunion</i> , Band 3, Heft 1 (1933)	312
<b>27</b>	R. P. Feynman SPACE-TIME APPROACH TO NON-RELATIVISTIC QUANTUM MECHANICS <i>Reviews of Modern Physics</i> , Vol. 20, p. 267 (1948)	321
<b>28</b>	Julian Schwinger THE THEORY OF QUANTIZED FIELDS, I. <i>Physical Review</i> , Vol. 82, p. 914 (1951)	342
<b>29</b>	Julian Schwinger THE THEORY OF QUANTIZED FIELDS, II. <i>Physical Review</i> , Vol. 91, p. 713 (1953)	356
<b>30</b>	W. Pauli THE CONNECTION BETWEEN SPIN AND STATISTICS <i>Physical Review</i> , Vol. 58, p. 716 (1940)	372
<b>31</b>	Julian Schwinger ON THE GREEN'S FUNCTIONS OF QUANTIZED FIELDS, I. <i>Proceedings of the National Academy of Sciences</i> , Vol. 37, p. 452 (1951)	379
<b>32</b>	Robert Karplus and Abraham Klein ELECTRODYNAMIC DISPLACEMENT OF ATOMIC ENERGY LEVELS, III: THE HYPERFINE STRUCTURE OF POSITRONIUM <i>Physical Review</i> , Vol. 87, p. 848 (1952)	387
<b>33</b>	G. Källén ON THE MAGNITUDE OF THE RENORMALIZATION CONSTANTS IN QUANTUM ELECTRODYNAMICS <i>Kongelige Danske Videnskabernes Selskab</i> , Vol. 27, No. 12 (1953)	398
<b>34</b>	Norman M. Kroll and Willis E. Lamb, Jr. ON THE SELF-ENERGY OF A BOUND ELECTRON <i>Physical Review</i> , Vol. 75, p. 388 (1949)*	414

\*This paper should properly appear following paper 12, but for reasons beyond my editorial control, it appears as the last paper. JS