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Streater R F & Wightman A S. *PCT, spin and statistics, and all that.* New York: Benjamin, 1964. 181 p.
[Imperial College of Science and Technology, London, England and Princeton University, Princeton, NJ]

The book presents the theory of quantized fields, the Lorentz group, distribution theory, and complex analytic function theory in the special directions needed to prove the famous theorems known as PCT and spin and statistics. [The *SCI*® indicates that this book has been cited in over 660 publications since 1964.]

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"When I was an instructor in physics at Princeton University in 1960, mathematical physics coexisted with mainstream physics. We published in journals, and attended conferences, in physics. Quantum field theory was too difficult for physicists, and at a conference on particle physics, a new theory called S-matrix theory was launched. Although this theory was not well founded mathematically, it received top billing amid claims that it superseded quantum field theory. The spurious argument that S-matrix elements are analytic 'because physical quantities are smooth' was seriously put forward. This convinced Wightman that more publicity was needed for the deep theory of quantized fields, now known as Wightman theory. H. Bethe recommended that a simple book containing a straightforward presentation should be attempted. I volunteered to do this job, but Wightman had already produced an outline, which we followed, when in 1962-1963 I visited Princeton again.

"The lighthearted title and direct style of the book were designed to appeal to nonspecialists. In this we seem to have been successful. This is one reason why the book is frequently cited; another is probably that the book was well timed, coming at the end of the main development of the theory. Later work turned in other directions. See 'Outline of axiomatic relativistic quantum field theory,'[1] and the appendix to the second edition of the cited work.[2] Also, we tried to limit the material to the essential parts of a very difficult subject: many deep and wonderful technical results of the theory had to be omitted because they concerned 'internal' matters, and would not be appreciated by outsiders. This severe self-discipline made the book accessible to many more people. The book obtained a reputation for accuracy, and this is a likely reason for some citations.

"My coauthor told me that two students of his were going through the book in great detail, improving the text as well as eliminating errors. These 'students' turned out to be A.M. Jaffe and O. Lanford! I would like to acknowledge their hard work here. The book broke new ground in physics, with a more thoroughgoing involvement of advanced mathematics. This gave the book a certain reputation; indeed, many citations are clearly spurious, and arise because authors wish to justify their own perhaps shaky argument by referring to our book for a rigorous proof of their assertions, whether or not such a proof is there."

1. **Streater R F.** Outline of axiomatic relativistic quantum field theory. *Rep. Progr. Phys.* 38:771-846, 1975.
2. **Streater R F & Wightman A S.** *PCT, spin and statistics, and all that.* Menlo Park, CA: Benjamin-Cummings, 1978. p. 179-98.