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Short title: Ghost busting: making sense of non-Hermitian Hamiltonians.

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Review text:

The famous model of (quantum) field theory as proposed by T. D. Lee in 1954 has originally been invented as an explicitly solvable, oversimplified methodical laboratory admitting the closed-form renormalization. In parallel, the model has almost immediately been rejected as being NOT a consistent system exhibiting the standard unitary evolution in time. This appeared to follow from the detection of the presence of the zero- and negative-norm states ("ghosts"). Recently (cf. the list of references), Bender with coauthors spotted the error and clarified (while the abstracted compact review paper summarizes the conclusion) that the "ghosts" will disappear (i.e., their norm will be made positive, making the model unitary and compatible with the current textbook postulates) just via a suitable redefinition of the linear functionals (i.e., in other words, of the inner product in the amended, new, corrected, physical Hilbert space of states). In the review paper under consideration, the author shows that (and how) the product of the so called "parity" \mathcal{P} of the model and of the so called "charge" \mathcal{C} of the model defines (one of) the correct inner-product metrics, in the lowest nontrivial "sector" (i.e., subspace) of the traditional Lee model at least.