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Review text:

Among the various proofs of convergence of continued fractions (in complex domain) the one (due to Van Vleck [1]) which assumes the asymptotically constant coefficients is of a particular geometric appeal since the continued fraction and its convergence become tractable as an iteration of a sequence of the almost identical rational mappings of the form z'=a/(b+z). In his famous book [2] O. Perron imagined that this proof relies on the key assumption that the (two) fixed points of the mapping in question are not "neutral" (meaning that each of them is either attractive or repulsive). This, of course, implies a stronger result ("the Perron's theorem") since the convergence may then be proved even in cases where the coefficients are constant up to a bounded error. The size of the bound is related to the distance between the moduli of the two separate fixed points. In this context, the author of the presented paper performs a comparatively easy and straightforward exercise by generalizing the Perron's theorem to the case of the iteration of the general rational mapping z'=(a+bz)/(c+dz). Unfortunately, she pays attention neither to the merely slightly more difficult case of the asymptotically neutral fixed point(s) [where the similar convergence theorems may be also derived, cf., e.g., M. Znojil, "The recursion method ...", J. Phys. A: Math. Gen. 9, 1-10 (1976) and "Fixed point perturbation theory and the ... analysis of convergence", J. Phys. A: Math. Gen. 17, 3441-8 (1984)], nor to the really challenging matrix generalizations of the above rational mappings, especially near their neutral fixed points [cf., e.g., M. Znojil, "Schroedinger equation as recurrences III", J. Phys. A: Math. Gen. 17, 1611-24 (1984) and C. D. Ahlbrandt, "A Pincherle theorem for matrix continued fractions", J. Approx. Th. 84, 188-96 (1996)].