

*Weighted Power Mean Discrete Dynamical Systems: Fast Convergence Properties*

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*Abstract:* We studied families of discrete dynamical systems obtained by using iteration functions given by weighted power mean in order to understand the role of hyperrapid convergence in nonlinear maps. Our interest resides in concepts related to the velocity of convergence. We introduce new concepts regarding the time of convergence and we provide an ordering of these families according to their dependence on parameters.