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**Gerald A Edgar\*** ([edgar@math.ohio-state.edu](mailto:edgar@math.ohio-state.edu)), 231 W Eighteenth Ave, Department of Mathematics, Columbus, OH 43210. *Transseries: Composition, Recursion, and Convergence*.

The set  $\mathbb{T}$  of transseries is naturally provided with additional structure. It is an ordered field. It is real-closed. It is a proper extension of the reals. And it has many additional operations, including exponential, logarithm, derivative, composition. Once the basic construction is given, many of the basic properties are easily established. But there are some basic properties that deal with composition where (so far at least) I do not know easy proofs. One example: Let  $T, S_1, S_2$  be transseries. Assume  $S_1, S_2$  are large and positive,  $S_1 < S_2$ . If  $T' > 0$ , then  $T \circ S_1 < T \circ S_2$ . (Received September 13, 2010)