

1116-03-1521 **Alessandro Berarducci*** (berardu@dm.unipi.it), Dipartimento di Matematica, Largo Bruno Pontecorvo 5, 56127 Pisa, PI, Italy, and **Vincenzo Mantova** (vincenzo.mantova@sns.it), Piazza dei Cavalieri 7, 56126 Pisa, PI, Italy. *Transserial derivations on surreal numbers.*

We shall present our recent work on ordered differential fields and Conway's surreal numbers, leading to a solution of the conjecture that Conway's surreal numbers admit the structure of a field of transseries and a compatible derivation. We shall also investigate a notion of composition of surreal numbers and its compatibility with a surreal derivation, leading to partial results and intriguing conjectures. (Received September 20, 2015)