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**Ekaterina Shemyakova\*** ([shemyake@newpaltz.edu](mailto:shemyake@newpaltz.edu)), 1 Hawk dr., SUNY New Paltz,  
Department of Mathematics, New Paltz, NY 12561. *Darboux transformations on the superline,  
Berezinians, and densities*. Preliminary report.

We consider differential operators on the superline, i.e., a supermanifold of dimension  $1|1$ . We show that every non-degenerate operator can be written in terms of ‘super Wronskians’ (which are Berezinians). We apply this to prove that every Darboux transformation corresponds to an invariant subspace of the source operator and, upon a choice of a basis in this subspace, is expressed by a super-Wronskian formula. (On the way, we obtain non-trivial analogs of classical row and column expansions for Berezinians.) We also discuss a generalization to differential operators acting on the algebra of densities. (Received August 29, 2016)