

Auto-Bäcklund transformation and analytic solutions in one dimensional carrier flow equations

Z. Chen

Department of Applied Mathematics, Shanghai Jiao Tong University
Shanghai, CHINA

R. Conte

Service de Physique de l'Etat Condensé, DSM/DRECAM/SPEC - CNRS/SPM/URA 2464
CEA/Saclay, F-91191 Gif-sur-Yvette Cedex, FRANCE

B. Guo

Dept of Mathematics, Shanghai University of Science and Technology
Shanghai, CHINA

ABSTRACT

We consider the simplified one dimensional PDE's governing the carrier flow in semi-conductor devices via the Painlevé analysis approach, and obtain analytic solutions.