1048-65-116   **Jeb Collins*** (`jbcolli2@unity.ncsu.edu`), Box 8205, Department of Mathematics, North Carolina State University, Raleigh, NC 27695, and **Pierre Gremaud** (`gremaud@unity.ncsu.edu`), Department of Mathematics, Box 8205, North Carolina State University, Raleigh, NC 27695. *Numerical simulation of laser drilling.*

Laser drilling is used in many industries due its advantages over conventional drilling techniques. Advantages include low heat release, consistency and accuracy. The process is quite involved and includes absorption and reflection of the beam, creation of plasma and melt ejection. The goal of this work is to show that for some regimes, simple and fast computational models can very accurately predict depth penetration, the fore most important aspect of the process. To this end, we will describe a quasi one-dimensional model and compare its prediction to experimental results. (Received February 02, 2009)