

**Beam Threading in the LHC, H. GROTE, CERN -**  
Particles circulating in the LHC will experience a considerable amount of nonlinear magnetic forces, in particular at injection. Therefore it is important to show that a first circulating beam can be achieved at all, albeit in successive steps of measurement and correction. This has been done in simulation using a realistic model of the LHC which includes all expected magnet position and field errors. The automatic procedure is based on pickups and corrector magnets. The results of this study have influenced the choice of the pickup system for the LHC. In particular, they show that a sufficiently smooth initial orbit can be achieved even with a certain percentage of "dead" pickups.