

# DARESBURY RECOIL SEPARATOR - STEPPER MOTOR CONTROL

*W. T. Milner, J. C. Blackmon and J. W. McConnell*

Six computer controlled stepper motors are provided to position two sets of X-slits and one or more target or aperture ladders. Since this system has been implemented only recently, the stepper motor control has not yet been integrated into the general DRS control system. However, full functional control is provided via a separate process, stepit. All parameters required for calibration and operation of the system are either defaulted or defined in an initializing file, stepfile.dat. Interactive commands are provided which can:

- Initialize stepper controlled devices to known positions (i.e., at the outer limit switch position)
- Move devices IN, OUT (or UP, DOWN) a specified number of units (steps, cm, or inches)
- Move devices to a given position (steps, cm, or inches)
- Move devices to named positions (up to 20 named positions per device are allowed)
- Scan a device (typically a target ladder) at a specified rate between two limits (either continuously or incrementally)
- Disable data acquisition during the stepper moves of the incremental scan referred to above