LIBTRK
(R-1.01)

LIBTRK is a library containing fortran subroutines of general utility.
The library is stored in the directory trk-software-ground/bin. Both a static (.a) and dynamic (.so) libraries have been created.

List of subroutines

- TRACK
- READ_B
- INTER_B

Usage:

CALL READ_B

Read the magnetic field maps (rz files) and fill related common blocks.
===> To be called once, before using TRACK and INTER_B

CALL TRACK(*NPTOF,*ZIN,XOUT*,YOUT*,*AL_P,IFAIL*)

NPTOF	(INTEGER)	Num. points
ZIN(NPTOF)	(DOUBLE)	Input z-coordinates (in cm)
XOUT(NPTOF)	(DOUBLE)	Output x-coordinates (in cm)
YOUT(NPTOF)	(DOUBLE)	Output y-coordinates (in cm)
AL_P(6)	(DOUBLE)	Track state vector
IFAIL	(INTEGER)	Error flag (ok if IFLAG=0)

Calculate particle-trajectory coordinates, for the state vector AL_P,
at z-coordinates set by the user.
(Make use of GRKUTA, routine to solve kinematic equations in a magnetic field using Runge-Kutta method, adapted from GEANT3 library)

CALL INTER_B(*X,*Y,*Z,B*)

X,Y,Z	(DOUBLE)	Coordinates (in m)
B(3)	(DOUBLE)	Magnetic field (in T)

Evaluate the three components of the magnetic field, by interpolating the measured magnetic field map.
(Used by TRACK)