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LIBTRK
(R-1.01)
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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)