Author(s) : C.H. Moore, D.C. Carey **Library:** PGMLIB
Submitter : C. Iselin **Submitted:** 27.11.1984
Language : Fortran 4 **Revised:**

Transport, Second-Order Beam Optics

TRSPRT is a first- and second-order matrix multiplication program for the design of magnetic beam transport systems. It has been in use in various versions since 1963. The present version, written by D.C. Carey at FNAL and extensively modified at CERN is described in CERN 80-04, NAL 91 and SLAC 91. It includes both first- and second-order fitting capabilities. A beam line is described as a sequence of elements. Such elements may represent magnets or the intervals separating them, but also specify calculations to be done, or special conditions to be applied. The program works in six-dimensional phase space $(x, x', y, y', l, dp/p)$; it is therefore also capable of calculating coupling between planes.

Structure:

Complete PROGRAM
User Entry Names: TRSPRT
Files Referenced: INPUT, OUTPUT,
External References: UBUNCH (M409), ABEND (Z035), DATIMH (Z007)

Usage:

See **Long Write-up**. TRSPRT is accessed from PGMLIB as described in section 'Execution of Complete Programs, PGMLIB' in Chapter 1 of the Program Library Manual.

Source:

SLAC and FNAL, USA

References:

1. K.L. Brown, D.C. Carey, C. Iselin and F. Rothacker, Designing Charged Particle Beam Transport Systems, CERN 80-04 (1980)

A copy of Ref. 1 is available as **Long Write-up**.

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