



GALAXY ADVANCED ENGINEERING, INC.

P.O. BOX 614

BURLINGAME, CALIFORNIA 94011

Tel: (650) 740-3244

Fax:(650) 347-4234

E-mail bahmanz@aol.com

ARC/PC

An Aircraft Radiation Code for personal Computer

The **Aircraft Radiation Code, ARC/PC**, is described for the personal computer or compatible. **ARC/PC** is a fast running radiation transport program which calculates the new crew dose from nuclear weapons, accounting for aircraft attenuation, attitude, flight path, range, yield, fission-fusion ratio, altitude, neutron, air secondary gamma rays with hydrodynamic enhancement.

ARC/PC computes the radiation dose (in rads) received by an aircraft crew in the vicinity of a nuclear weapon detonation. **ARC/PC** simulates the flight of an aircraft through either of two types of flights paths. One type puts a constant g-load on the aircraft and the other gives, in effect, a constant turn radius. **ARC** requires as input angle-dependent attenuation factors for the aircraft to be obtained from a modified version of code called **MEVDP/PC** (**M**odified **E**lemental **V**olume **D**ose **P**rogram) also available from **GAE. Inc.**

ARC/PC contains a built-in neutron and secondary gamma- ray radiation environment consisting of exponential functions fitted to the dose vs. angle and distance for a representative intermediate yield thermonuclear weapon. In addition to built-in neutron and secondary gamma-ray data, there is an option in **ARC/PC** for using radiation dose data computed with the **ATR5/PC** code, also available from **GAE Inc.** It is recommended that the **ATR5/PC** code will be used when possible since any weapon type, yield, and leakage energy spectra can be specified as desired. The use of **MEVDP/PC** as second option will allow you to compute dose attenuation factors. This code is a combinatorial geometry procedure, which uses ray tracing through elemental volumes of material describing the aircraft geometry.

ARC/PC is a FORTRAN-implemented code developed for use on both 286 and 386 up series personal computers and runs under windows 95/98/2000/XP/ME and NT as well. To order this product, please send your company's purchase order to **GALAXY ADVANCED ENGINEERING INC.**