



GALAXY ADVANCED ENGINEERING, INC.
P.O. BOX 614
BURLINGAME, CALIFORNIA 94011
Tel: (650) 740-3244
Fax: (650) 347-4234
E-mail: bahmanz@aol.com

SPARES/ PC

A Space Radiation Environmental and Shielding System for PC

SPARES/PC is an effort to incorporate the following Space Radiation Environment and Shielding codes into a unified Space Radiation Environment Shielding System (SPARES).

(A) ELMC/PC (Electron Monte Carlo Code): Calculates the electron number, energy, and angular fluence resulting from the incidence of a specified initial spectrum on a multi-layered one-dimensional shield.

(B) EPEN/PC (Electron Penetration Code): Data from **ELMC/PC** is used in **EPEN/PC** to formulate analytic expressions to describe electron number penetration and the penetrating energy spectrum. Dose and spectral data are obtained for a set of initial energies and the results are then weighted by the incident spectra of interest and summed for the final solution.

(C) BREMS/PC (Bremsstrahlung Code): The bremsstrahlung resulting from electron incident on a shield is calculated in **BREMS/PC**. Either one-dimensional, multi-layer slab geometries or three-dimensional geometries can be treated.

(D) HEVPART/PC (Heavy Particle Penetration Code): Calculates the penetrating energy spectrum, LET spectrum, and absorbed dose in multi-layered slabs resulting from a fluence of proton, He, or heavy ions. Resulting for three-dimensional geometries can also be obtained to describe space vehicle structures.

(E) SECPRO/PC (Secondary Proton Penetration Code): The penetrating proton energy spectrum and the resulting secondary protons, neutrons, and gamma rays are calculated in **SECPRO/PC** for multi-layered shields. Dose and LET spectral data are also given. The recoiling nuclei dose resulting from the penetrating proton and neutron spectra are also given.

(F) TANDE/PC (Trajectory and Environment Code): This code is designed to calculate the Van Allen belt electron and proton fluxes and fluences encountered in or near earth trajectories.

We at **Galaxy Advanced Engineering, Inc. (GAE)** have taken steps to make all these codes available on your PC platform or %100 compatible under PC/DOS or MS/Windows95/98/2000/XP/ME and NT operating system. To obtain the code and more information, please contact our company or call us at 650-740-3244.