of the delta-scattering process can result in large reductions of probable errors in capture rates in regions which have a low probability of neutron reaction on any given neutron flight through the region.

6. Restrictions on the Complexity of the Problem:

	RECAP-1	RECAP-2	RECAP-3
No. of Energy Groups	100	100	100
No. of Energy Intervals/Group	1000	1000	1000
No. of Resonance Nuclides	5	5	5
No. of Nonresonance Nuclides	5	5	5
No. of Resonances per Isotope	50	50	50
No. of Regions	6	4	400
No. of Compositions	6	4	25
Boundary Conditions	Repeating	Symmetry	Symmetry: Rot. Symmetry; Comb. of the Above
Machine Requirements	32K core storage with 10 tape units (This includes system tapes, scratch tapes, file tapes, and input-output tapes).		

7. Typical Running Time: Variable, depending on the number of groups, complexity of the problem, and accuracy desired. Average problems may run 10-30 min on Philco 2000 (Model 212).
8. *References:*

N. R. Candelore and R. C. Gast, "RECAP-1 —A Monte Carlo Program for Estimating Epithermal Capture Rates in Slabs," WAPD-TM-407, (October 1963).

N. R. Candelore and R. C. Gast, "RECAP-2 —A Monte Carlo Program for Estimating Epithermal Capture Rates in Rod Arrays," WAPD-TM-427, (May 1964).

N. R. Candelore and R. C. Gast, "RECAP-3 —A Monte Carlo Program for Estimating Epithermal Capture Rates in Rectangular or 60° Parallelogram Geometry," WAPD-TM-437, (March 1964).

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1. Name of Program: TXY01
2. Computer for which Program is Designed: Philco 2000
   Programming System: FORTRAN
3. Nature of Problem Solved: TXY01 solves the monoenergetic neutron transport equation in a rectangular region. The program solves source problems only, and does not consider anisotropic scattering. The program imposes reflecting boundary conditions on two adjacent boundaries and allows a choice of vacuum or reflecting boundary conditions on the remaining two boundaries (individually).
4. Method of Solution: The program uses a two-dimensional generalization of the discrete-ordinates procedure used in CTS-3 (Ref. 1), described in Ref. 2. Successive overrelaxation is used to accelerate the convergence of the iteration scheme.
5. Restrictions on the Complexity of the Problem:
   a. At most 50 mesh lines of constant x and at most 50 of constant y are permitted, their intersections defining a mesh of at most 2500 points and 2500 rectangles. The mesh intervals need not be constant.
   b. The program allows at most 25 regions of different composition and at most 25 regions of constant source. Each region is a set of mesh rectangles.
   c. A maximum of 16 discrete angles per octant (4 azimuthal and 4 polar) are allowed.
6. Typical Running Time: Running time for typical problems vary from 0.02 to 0.20 h.
7. Present Status: In production.
8. *References:*

[1]J. H. Bennett, "CTS-3, A Multi-Group Transport Program for Infinite Cylinders," WAPD-TM-390, (Sept. 1963).

[2]J. H. Bennett, "TXY01: A One-Group Transport Program for x-y Geometry," WAPD-TM-482, (October, 1964).

9. Material available to Domestic Users from Philco:
   Binary Program
   FORTRAN Source Deck
   WAPD-TM-482

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