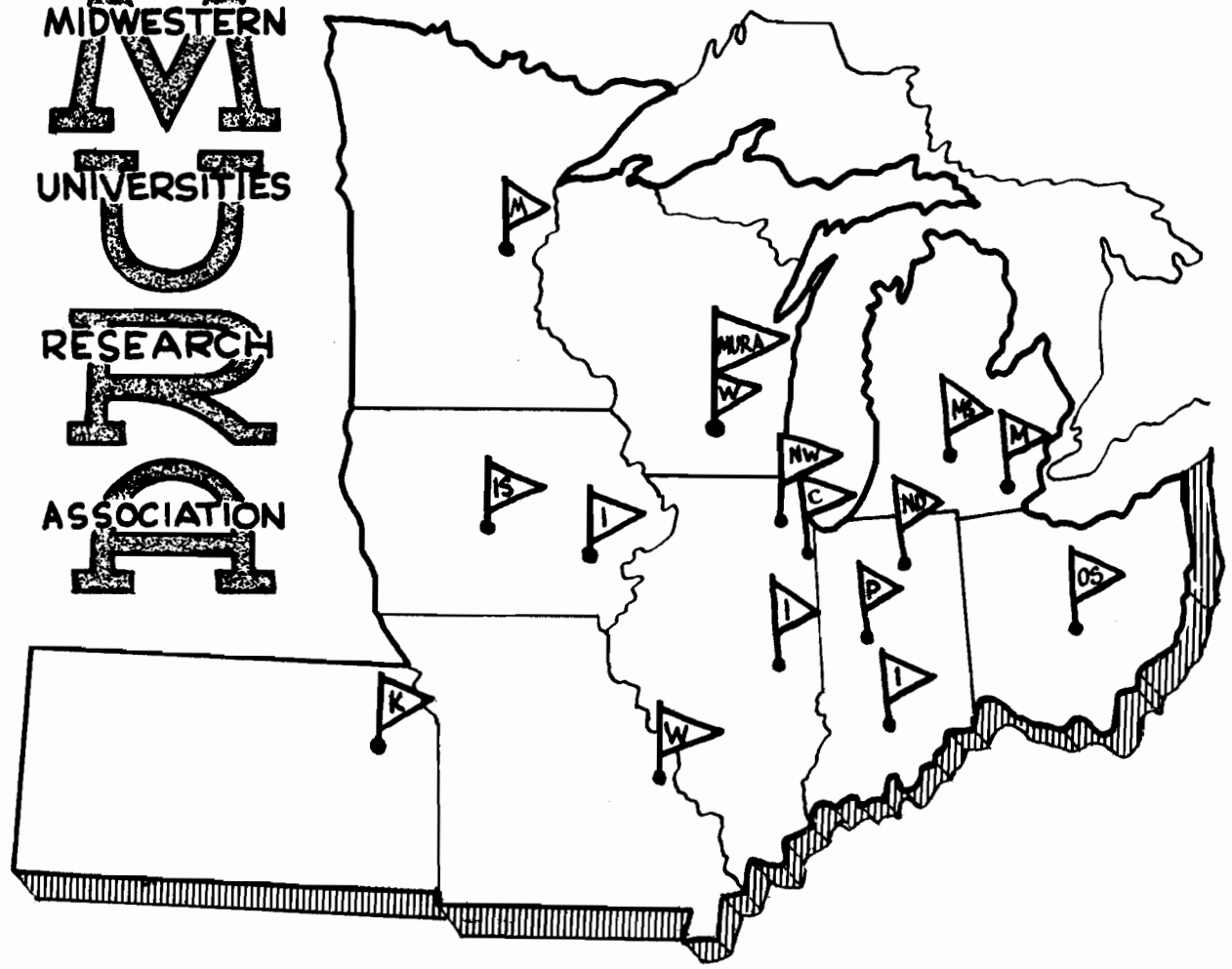




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REPORT HALFDUCK
Program F12
November, 1959

NUMBER 534
Computer Program
Internal

HALFDUCK
(Program F12)
G. A. Westlund

This program was suggested by L. J. Laslett on October 30, 1959. It solves the equations

$$\frac{dx}{d\phi} = p_x$$

$$\frac{dp_x}{d\phi} = \left[S + A \cos(m_1 \phi + \alpha \pi) + B \cos(m_2 \phi + \beta \pi) \right. \\ \left. + C \cos(m_3 \phi + \gamma \pi) + D \cos(m_4 \phi + \delta \pi) \right] x$$

in floating point arithmetic. The program was written in FORTRAN II language and uses the MURKY5 subroutine for the integration.

Entrance parameters are entered on the standard MURA/FORTRAN agendum sheets. NE integration steps of size π/N_{RK} each are taken for each run, with printing every NP^{th} step.

For the first run of a series, enter only those values that are not zero. For subsequent runs of a series, enter only those values that differ from those of the previous run.

NOTE: The ID, NE, and NP must each be less than 32,768.

The sense switches have no effect on the program.

The addresses of the entrance parameters are as follows:

I. D.	20	m_2	10
x_0	1	m_3	11
p_{x_0}	2	m_4	12
$(\phi/\pi)_0$	3	α	13
S	4	β	14
A	5	γ	15
B	6	δ	16
C	7	NE	17
D	8	NP	18
m_1	9	N_{RK}	19

MURA/FORTRAN AGENDUM

PROGRAM NO. _____ **SUBMITTER** _____

Instructions:

1. Enter program number and submitter's name above.
2. Enter address and value below for parameters desired.
3. Enter sense switch settings: _____

Notes:

1. Decimal points may be omitted only if understood to follow the rightmost digit.
2. Addresses may not contain more than 4 digits.
3. Factors may not contain more than 8 digits.
4. Exponents may not contain more than 2 digits.
5. Exponents may be omitted if zero. If not, they must be signed.

Address	Value	Address	Value	Address	Value

END DATA