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NELSON RESEARCH LABORATORIES
STAFFORD
MATHEMATICAL PHYSICS LABORATORY.

Report No. NS t 103
Date 12.12.55.
Reference
Order No.

Telephone:—Stafford 700.

Front Sheet.
Data Sheet 1.
Figure sheet S6/10372

DEUCE Subroutine No. 113 (T07)

Report by

R.A.E.

SUMMARY.

The attached document contains details of a DEUCE Subroutine which has been prepared and tested by R.A.E.

S. M. Dennis

MATHEMATICAL PHYSICS LABORATORY

NW

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NS t 103
Sheet No.: 1.

Description. Second order subroutine to evaluate $\cosh x$.
Data. x to 30 binary places.
Uses. M04/1 with a shift of 1 in DL.A.
Result. $\cosh x$ to 29 binary places.

Instructions for Use.

Stores Used.	13	14	15	16	21 ₂	21 ₃
Contents at Entry.	-	-	link	x	-	-
Contents at Exit.	-	x	link	x^2 (29 b.p.)	-	$\cosh x$
Occupies.	DL 2 ₁₂₋₃₁					
Entry.	m.c. 12					
Time.	24 $\frac{1}{2}$ m.s.					
Constants available.	P30 in m.c. 21					
Parameters.	NIS of A in m.c. 12					

D.L. 2.		Track					
Card Nos.							
mc	N	S	P	C	W	I	
							Y
							X
							0
							1
0							2
1							3
2							4
3							5
4							6
5							7
6							8
7							9
8							Y
9							X
10							0
11							1
12	2	2	13	3	4		2
13	2	29	23	1	9		3
14	2	29	23	0	0		4
15		16, 26, 21, 9, 0, 0, 0					5
16	2	30	21	0	1		6
17	2	21	16	1	20		7
18	A	16	14	0	20		8
19	2	0	24	0	9		9
20	2	2	13	0	6		Y
21		0, 0, 0, 0, 0, 16, 0					X
22	2	2	22	10	23		0
23		29, 31, 31, 31, 31, 31, 1					1
24	1	15	1	5	5		2
25		7, 13, 21, 10, 21, 10, 1					3
26	2	13	0	1	0	25	4
27		2, 2, 26, 2, 12, 11, 0					5
28	2	2	21	17	18		6
29		28, 14, 18, 0, 20, 1, 0					
30	2	28	26	1	25	26	8
31		11, 12, 14, 19, 4, 0, 0					9

