

MEMORANDUM
OF CALL

Previous editions usable

TO:

Dr. Thornton

YOU WERE CALLED BY—



YOU WERE VISITED BY—

Anthony Arrott

OF (Organization)

Holiday Inn - NASA 1



PLEASE PHONE ►



FTS



AUTOVON



WILL CALL AGAIN



IS WAITING TO SEE YOU



RETURNED YOUR CALL



WISHES AN APPOINTMENT

MESSAGE

Here is the abstract and
results from STS-8 ~~the~~ ocular
torsion expt. The second graph
shows the long postflight
results. I am here at SSC all

RECEIVED BY

this week.

DATE

27 Mar 84

TIME

63-110 NSN 7540-00-634-4018

★ U.S. G.P.O. 1983-381-529/234

STANDARD FORM 63 (Rev. 8-81)

Prescribed by GSA
FPMR (41 CFR) 101-11.6

Reduction of Static Ocular Counterrolling due to Six Day Exposure to Weightlessness

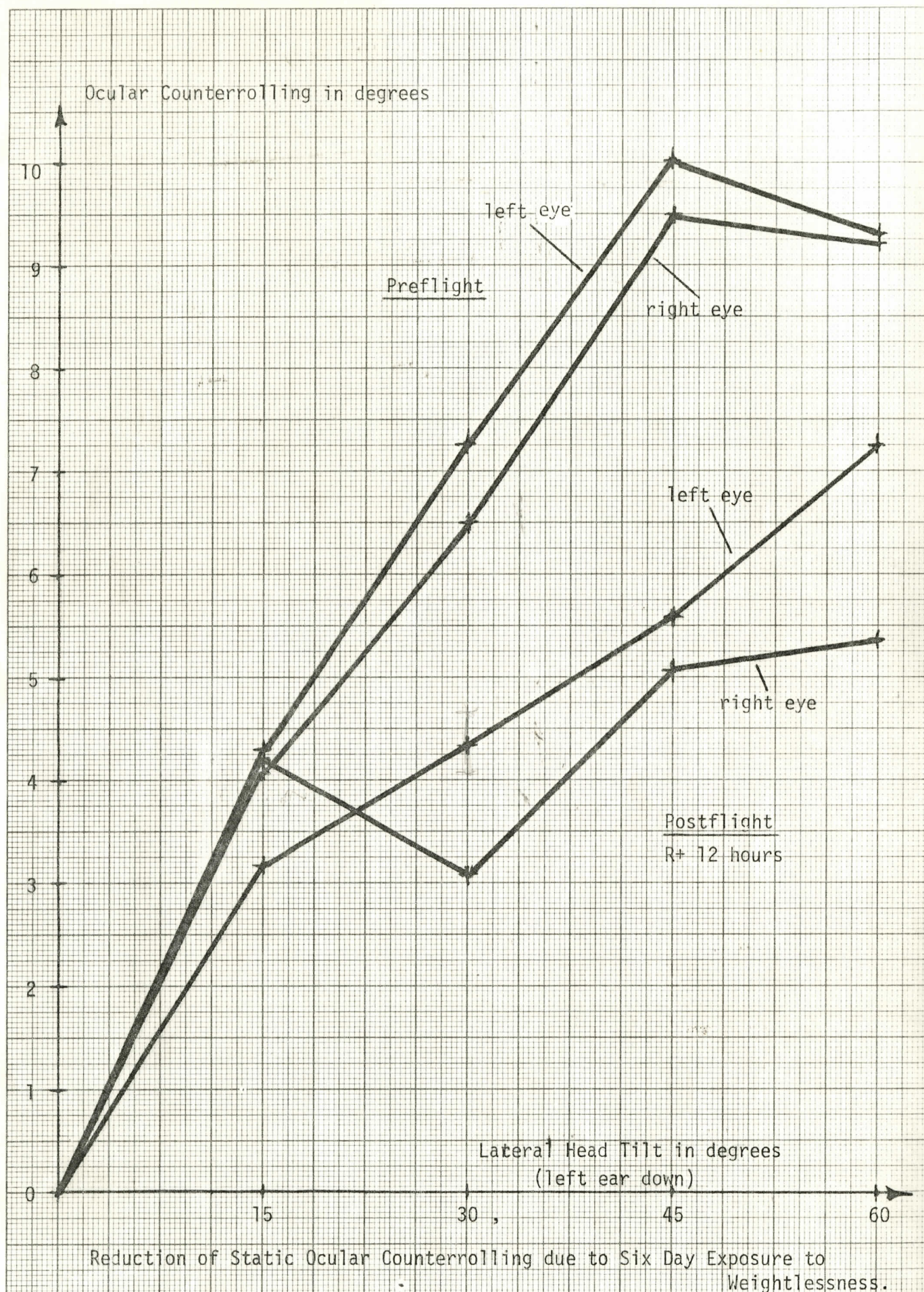
Anthony P. Arrott, Byron K. Lichtenberg, and William E. Thornton

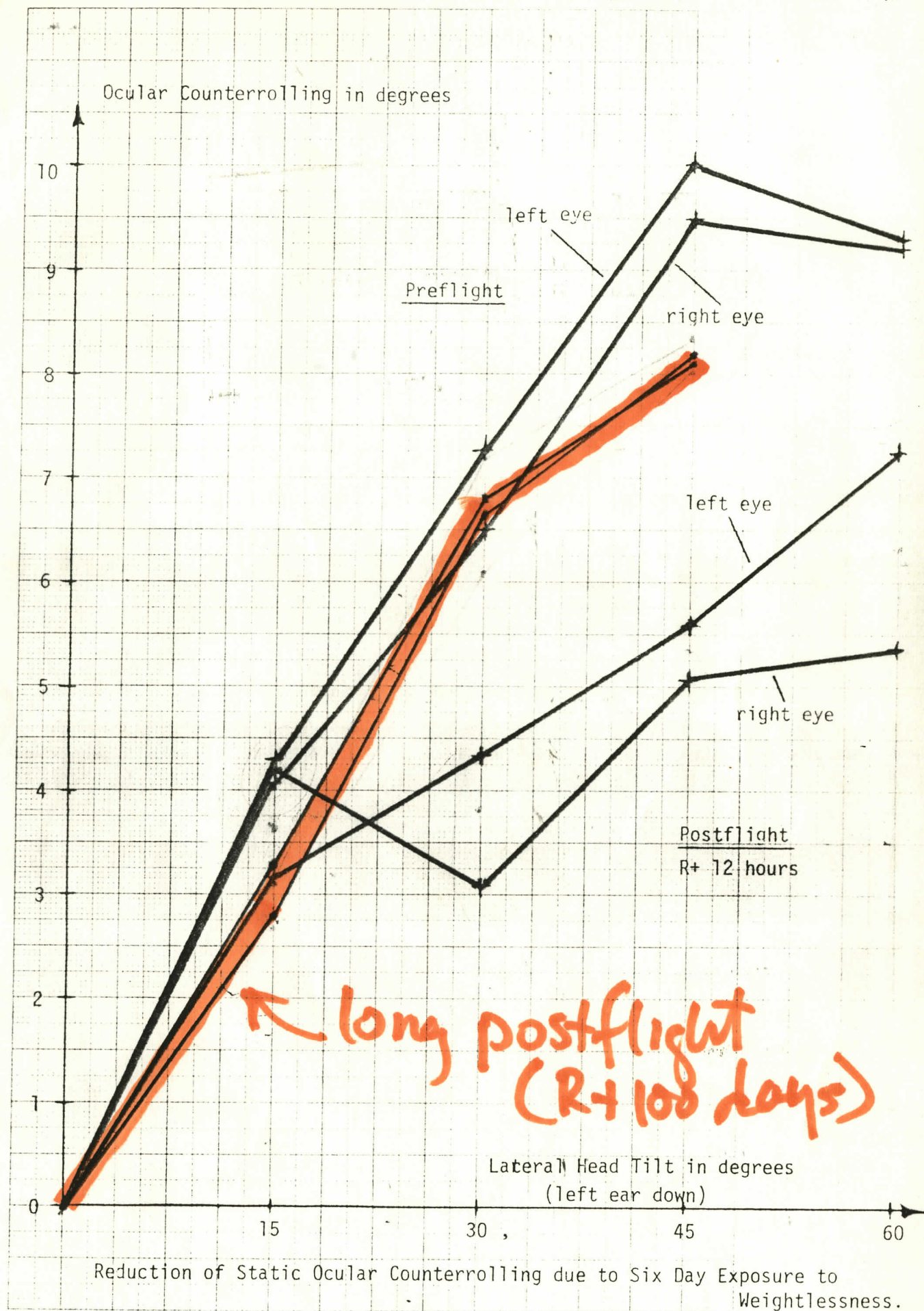
ABSTRACT

The static ocular counterrolling reflex of one astronaut was measured both before and after a six day space mission (STS-8). Static ocular counterrolling of both eyes was measured by a photographic method for up to 60 degrees of lateral head tilt. The preflight measurements were in the normal population range (9-10 deg. counterroll for 45 deg. head tilt). Postflight measurements made 12 hours after landing showed significantly less counterroll (5-6 deg.). The observed change in a basic otolith-ocular reflex indicates that sensory adaptation to weightlessness involves changes in relatively simple reflex arcs at the brainstem level. Because the result was obtained from one subject and is at variance with earlier studies (Graybiel et al, 1967; Yokovleva et al, 1982) confirmation is required.

Graybiel A., E.F. Miller, J. Billingham, R. Waite, C.A. Berry, and L.F. Dietlein: Vestibular experiments in Gemini Flights V and VIII. Aerospace Med pp. 360-370, April 1967.

Yakovleva I.Y., L.N. Kornilova, I.K. Tarasov, V.N. Alekseyev: Results of studies of cosmonaut vestibular function and spatial perception. Moscow Kosmicheskaya Biologiya I Aviakosmicheskaya Meditsina vol. 16 pp. 20-26, 1982.





Arrott, Lichtenberg, and Thornton (in preparation)