

NRO/PSAC STUDY ON COLOR FILMS - MARCH-MAY 1968

ANALYSIS OF COLOR FILM MEASUREMENT METHODS

COMPARATIVE ANALYSIS OF COLOR FILM TECHNOLOGY

- INCORPORATED DYE COUPLER FILMS
(EKTACHROME, AGFACHROME, ANSCOCHROME)
- NON-INCORPORATED DYE COUPLER FILMS (KODACHROME)
- DYE DESTRUCTION FILMS (GASPARCOLOR, CIBACHROME)

PHOTOGRAPHIC MODEL SIMULATIONS

COMPARISON FLIGHT TESTS

EXPLOITATION ANALYSIS

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NRO SUMMATION - MAY 1968

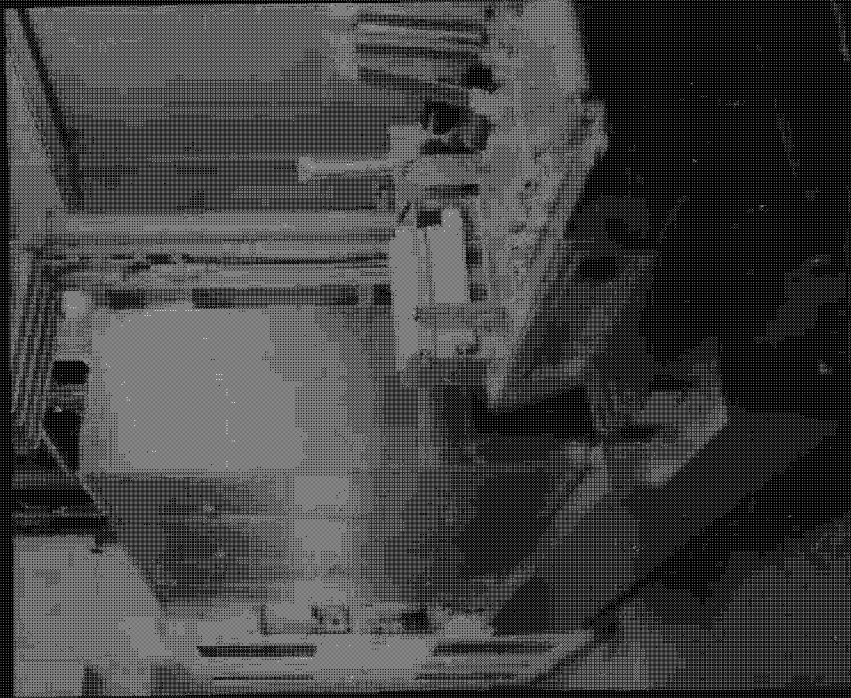
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- ▶ NO AERIAL COLOR FILM HOMOLOG OF 3404 BLACK AND
- ▶ NO CURRENT EFFORT TO DEVELOP OR MANUFACTURE COLOR FILM HOMOLOG
- ▶ IMAGE QUALITY OF AVAILABLE AERIAL COLOR FILMS TOO DISPARATE FOR GENERAL USE IN NRP
 - GAMBIT PRODUCES - 1 FOOT GRD BLACK AND WHITE DUPLICATE
 - 2 FEET GRD COLOR ORIGINAL
 - 3 FEET GRD COLOR DUPLICATE
- ▶ TECHNOLOGY EXISTS TO SIGNIFICANTLY REDUCE THIS IQ DISPARITY
- ▶ IF SUCH HOMOLOG FILM WERE TO BE DEVELOPED, NRP MUST:
 - DEVELOP ADEQUATE PROCESS, REPRODUCTION AND ANALYSIS CAPABILITIES
 - COMMIT TO A PROGRAM OF USE IN OPERATIONAL SYSTEMS
 - OVERCOME CHICKEN/EGG SYNDROME OF REQUIREMENT/USE CYCLE

GROUP 1 EXCLUDED
FROM AUTOMATIC
DOWNGRADING
AND DECLASSIFICATION
E-2 IMPDET

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DALTON Film Processor



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RMS GRANULARITY (10 μ m APERTURE)
SO-242

LAYER	STANDARD GRAFTON	NEW GRAFTON
RED	0.038	0.035
GREEN	0.035	0.031
BLUE	0.145	0.050

EX/TCS/062/72/KH/002

NO. 72 662A
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HISTORY

- SO-242 INTRODUCED IN FALL OF 1969
- SO-242 FIRST FLOWN ON 4324-2 IN NOVEMBER 1969
- SO-255 (UTB VERSION OF SO-242) INTRODUCED IN MID-1970
- SO-242/SO-255 FLOWN ON EVERY KII-8 MISSION SINCE 4324, (EXCEPT 4330 AND 4331)
- SO-242 FLOWN IN [REDACTED] BETWEEN FALL OF 1970 AND 1971
- FULL COLOR MISSION FLOWN IN OLD HEAD PROGRAM IN JUNE 1972
- COMIREX REPORTED TO USIB ON EVALUATION OF COLOR PHOTOGRAPHY IN OCTOBER 1971; REPORT APPROVED BY USIB

MAJOR FILM AND PROCESS DEVELOPMENTS

- ▶ CONVERSION TO ESTAR FROM ACETATE FILM BASE
- ▶ DEVELOPMENT OF ULTRA THIN BASE
- ▶ IMPROVED COLOR FILMS - ACQUISITION AND DUPLICATION
- ▶ IMPROVED BLACK AND WHITE FILMS - ACQUISITION AND DUPLICATION (TWO GENERATIONS SINCE 1960)
- ▶ IMPROVED PROCESSES (DUAL GAMMA AND EDGE ENHANCEMENT)

FOR THE FUTURE

- IMPROVED COLOR PROCESSES
- IMPROVED INFRARED-COLOR FILM
- IMPROVED COLOR DUPLICATION FILM
- FINER GRAIN BLACK AND WHITE FILM

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KODAK AERIAL COLOR AND EXTACHROME INFRARED FILMS LOW CONTRAST RESOLVING POWER VERSUS TIME

COLOR - CAMERA

85W

SO-242/SO-255 GRAFTON

INTRODUCTION OF SO-242

INTRODUCTION OF SO-121

SO-121

EXTACHROME

PT PROCESSOR

SO-180/844

INFRARED:

EXPERIMENTAL
PROCESS

EXPERIMENTAL
PRODUCT

EXPERIMENTAL I.R. COLOR
FILM AND PROCESS

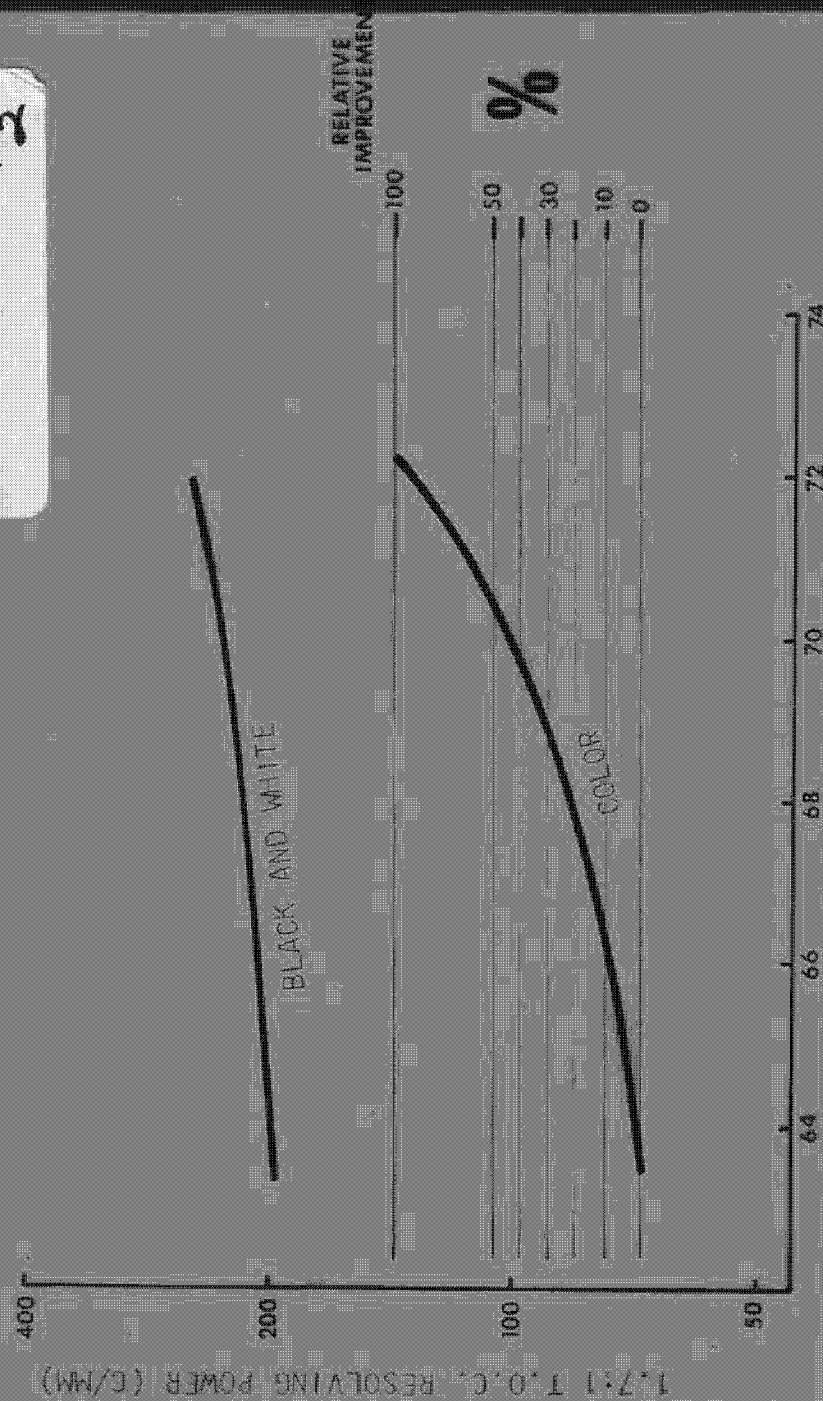
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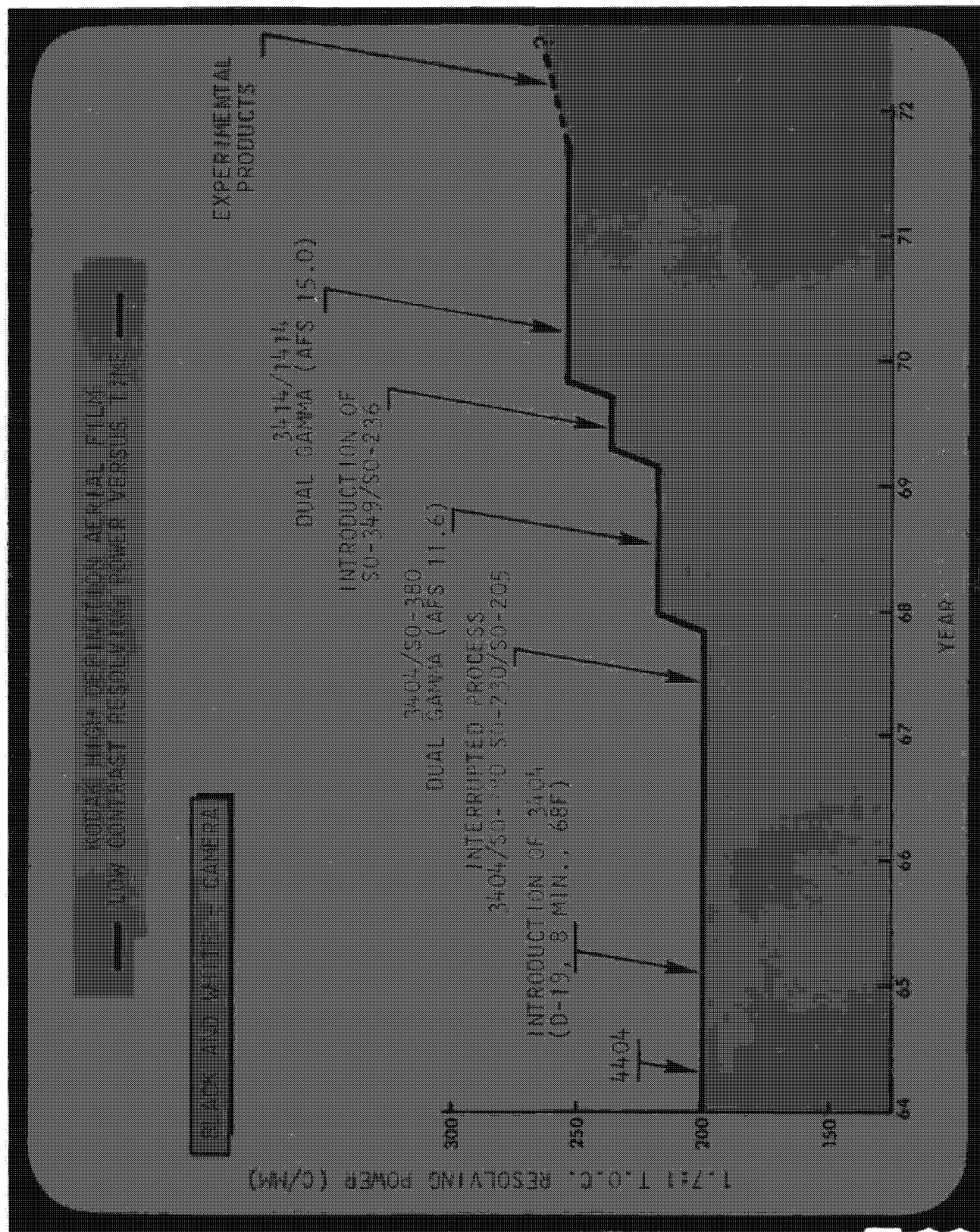
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LOW CONTRAST RESOLVING POWER (C/MP)

LOW CONTRAST RESOLVING POWER
RELATIVE IMPROVEMENT FOR ACQUISITION FILMS

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