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This document consists of 9 pages

March 21, 1952

MINUTES OF THE TWENTY-SECOND MEETING OF THE THEORETICAL MEGATON GROUP

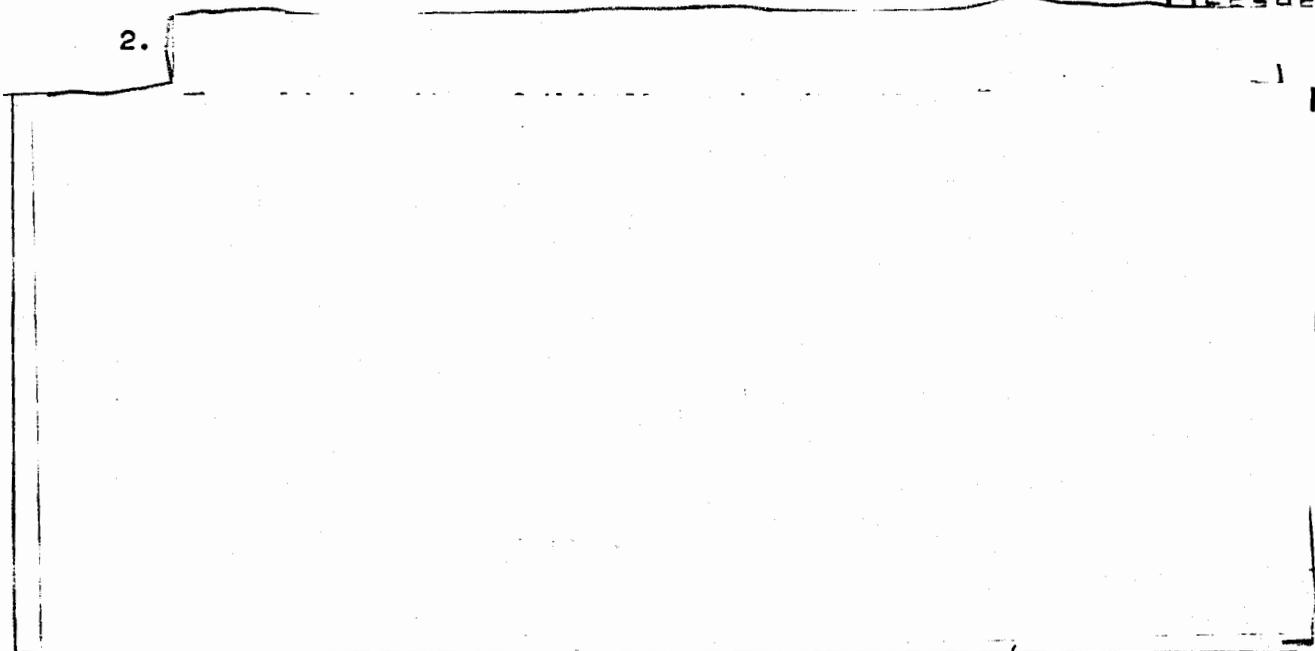
19 March 1952

1. The twenty-second meeting of the TMG convened at 9:00 AM on Wednesday, 19 March 1952, in the W-Division Conference Room. Those present were:

- |                |                      |
|----------------|----------------------|
| G. Bell        | M. G. Holloway       |
| H. A. Bethe    | R. M. Landshoff      |
| W. Bouricius   | C. L. Longmire       |
| K. Boyer       | J. C. Mark, Chairman |
| A. A. Broyles  | H. L. Mayer          |
| E. D. Cashwell | L. W. Nordheim       |
| R. F. Christy  | W. E. Ogle           |
| F. de Hoffmann | J. C. Potts          |
| C. Evans       | O. W. Rechard        |
| F. Evans       | F. Reines            |
| D. K. Froman   | J. R. Reitz          |
| R. L. Garwin   | M. Rosenbluth        |
| W. B. Goad     | P. R. Stein          |
| R. W. Goranson | J. L. Tuck           |
| G. M. Grover   | S. M. Ulam           |

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW
REVIEW DATE: 8-5-97
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REVIEW DATE: 1/2/97
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1. DETERMINATION (SINGLE NUMBER(S))
2. CLASSIFICATION RETAINED
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5. CLASSIFICATION CANCELLED
6. CLASSIFIED INFO BRACKETED
7. OTHER (SPECIFY):

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Henry (Matterhorn Project) has prepared a similar type of calculation for the SEAC.

4. Jet Observations in the Snapper Test.

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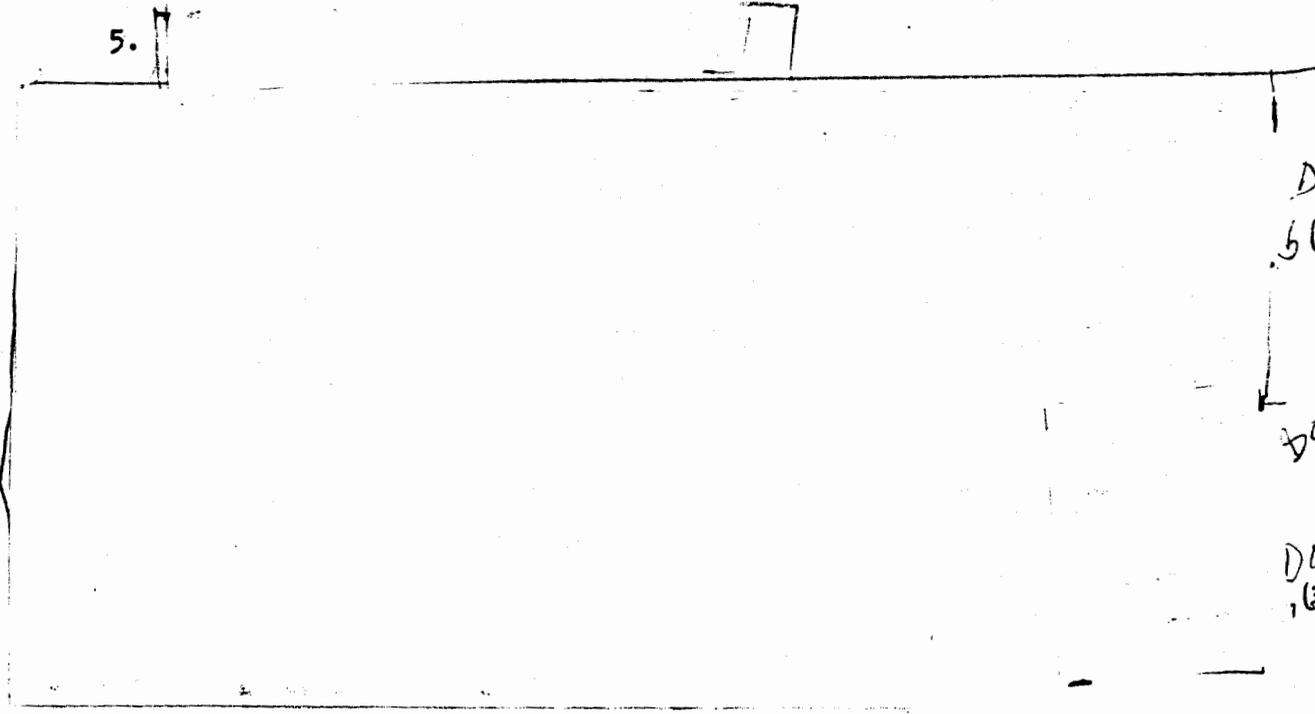
With three such jet devices spaced along the axis of the channel it was hoped to get jet displacement as a function of time with the fast framing cameras (3 per usec) and thus some measure of radiation pressure as a function of distance down the channel. The upper and lower jet velocity limits for observational purposes are 200 and 7 cm/usec.

Evacuated glass tubes would be used for the jet path if it is certain the luminosity induced by gamma rays would not obscure that emanating from the jets.

[Redacted] For an experiment of this kind one would want a completely different housing design than the one presently designed for the purpose of finding out if radiation flows as expected.

It was felt that the suggestion of Tuck should be accepted provided this additional material did not jeopardize any of the presently proposed experiments.

5.



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Rosenbluth remarked that this will introduce a new and difficult timing problem.

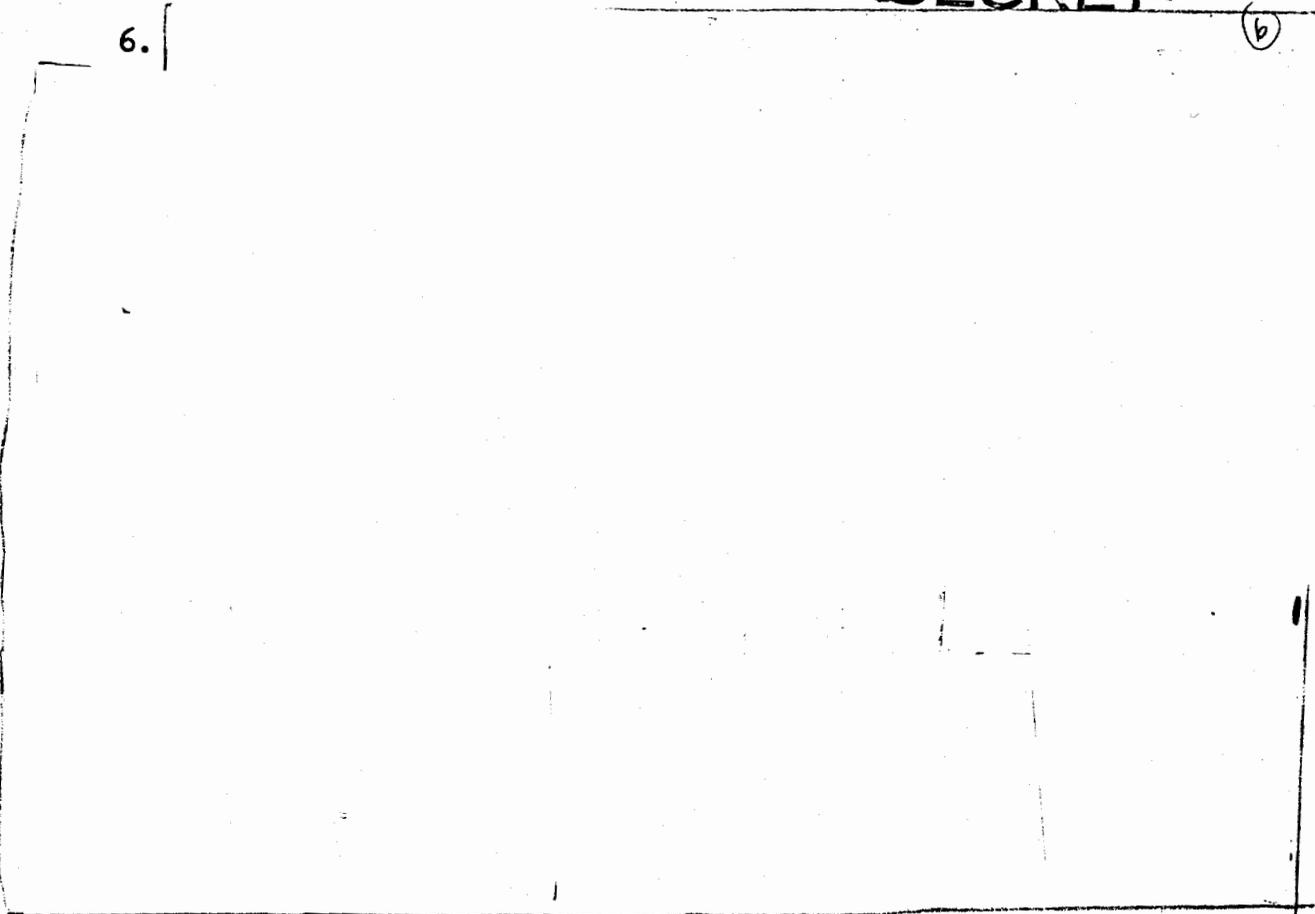
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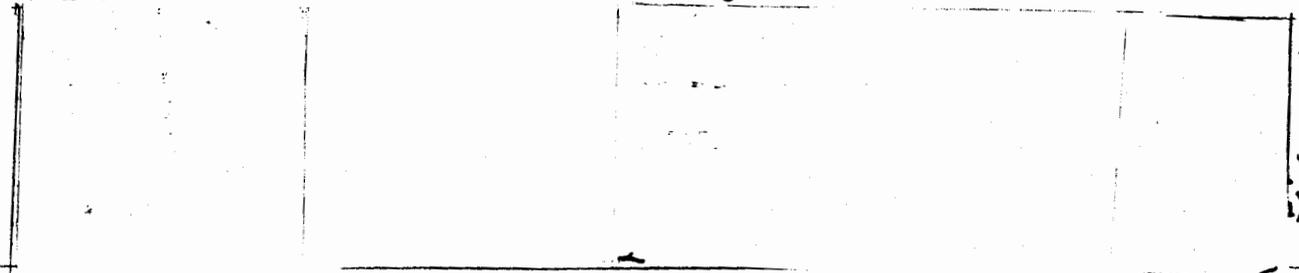
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checked the quality range of procaralis mixtures having the required mechanical properties.

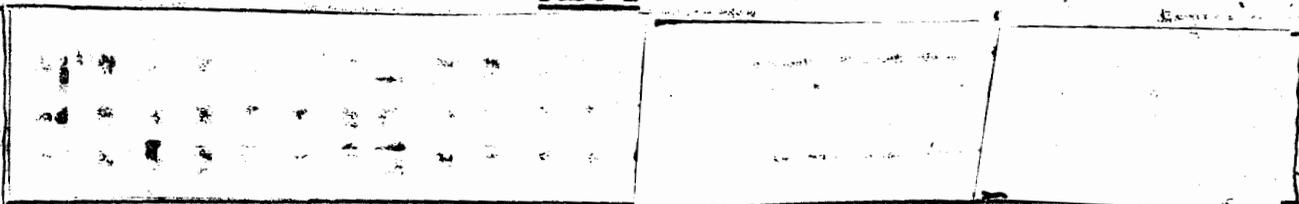
7. Radiation Flow Calculations (de Hoffmann, Goldstein)



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The problems were again divided into two parts: part I from zero time until the radiation front reaches the far end of the channel, and part II on from this time. The basic treatment of the problems followed the outline given in previous minutes but the following will serve to amplify each part (notation as before).

Part I



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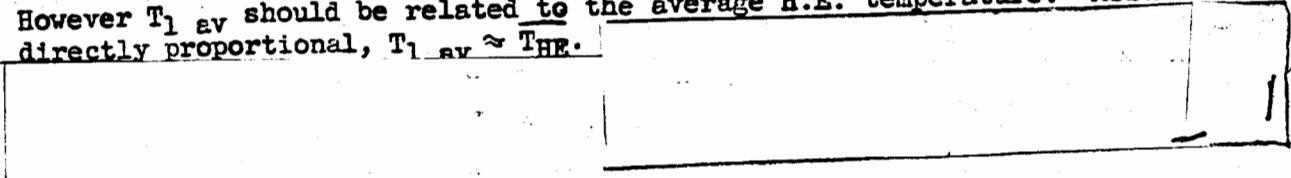
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These results can be understood more fully by referring to the relation of  $y_0$  and  $T_1$  for a simple Marshak wave (LAMS-1210):

$$y_0(t) \sim \frac{\left\{ \int_0^t T_1(t)^{4+k} dt \right\}^{1/2}}{T_1^k(t)}$$

However  $T_{1,av}$  should be related to the average H.E. temperature. Assume it is directly proportional,  $T_{1,av} \approx T_{HE}$ .



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*R. W. Goranson*

R. W. Goranson

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| 7A - F. de Hoffmann   | 21A - J. C. Mark      | 35A - S. M. Ulam      |
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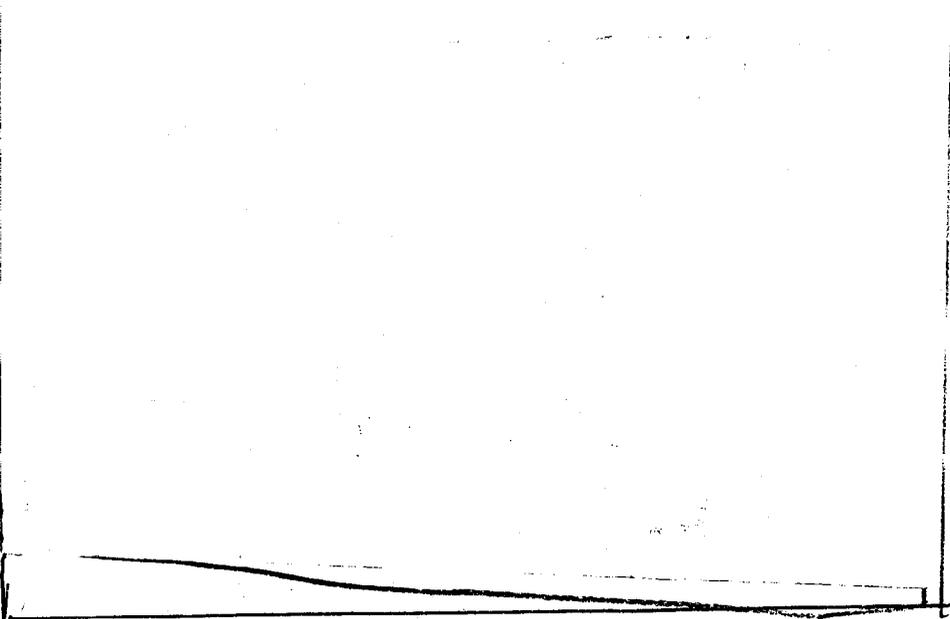
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Table 2



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