

PREPARED DISCUSSION

BY

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In Report 185, "Response of Reinforced Masonry Shear Walls to Static and Dynamic Cyclic Loading", by D. Williams and I.C. Scrivener, the authors are concerned with the behaviour of vertically loaded and unloaded masonry walls subjected to horizontal static and dynamic loads. In the conclusions it is stated that cyclic static test results in all probability do not give a conservative basis for seismic design.

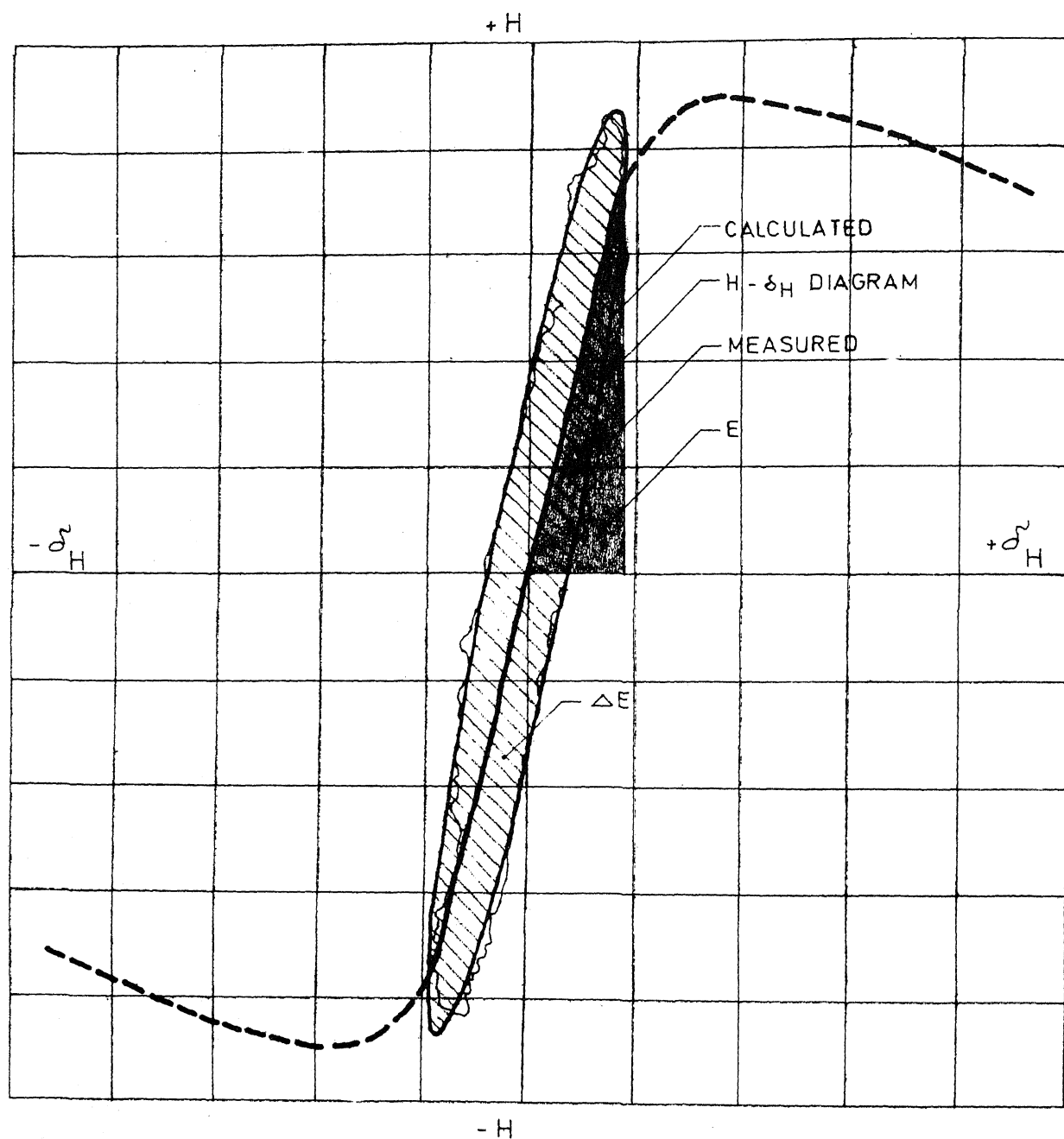
We agree, in fact, with the above quoted statements, since we have reached similar ones after considering the results of tests recently carried out here at our Institute in Ljubljana. We would like to add to these statements with the following:

The extra advantage of using dynamic tests is that the damping coefficient can be obtained from the expression:

$$c = \frac{\Delta E}{E} \cdot \frac{I}{4\pi^2} \cdot \frac{k}{v}$$

as follows from Fig. 1.

In order to improve the ease of comparison of test results obtained in different countries it would be necessary to agree upon a uniform system of loading, to decide upon the use of particular load-deflection block-diagrams, and to assume a test frequency to be as near as possible the same as the naturally occurring frequency, and also a vertical loading to which test walls would be subjected - Fig. 2. At present we are carrying out dynamic tests which will show the effect of varying the vertical loading and the frequency of horizontal loading on the shear strength and deformability of wall units.



H- δ_H AND HYSTERESIS DIAGRAM

Fig. 1

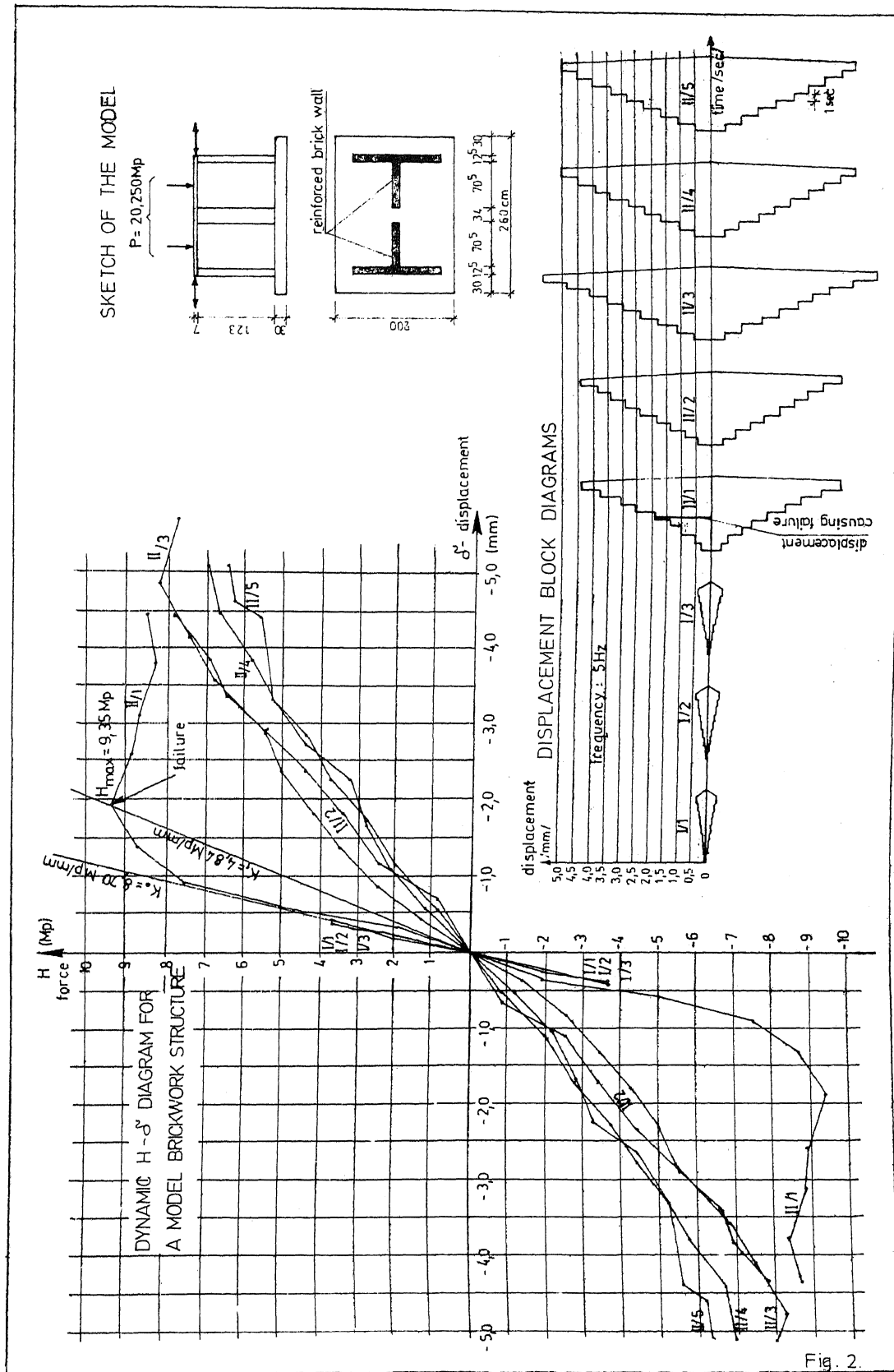


Fig. 2.