SEISMIC TEST ON 1/5 SCALE HTGR CORE MODEL

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SUMMARY

This paper describes a seismic test on a 1/5 scale HTGR graphite core model. The test program included:

a) A horizontal uniaxial excitation in two orthogonal directions at accelerations up to approximately 1.5 g.
b) Sinusoidal, time history (El Centro, Taft, synthesized), excitations imposed on the model.
c) Damping and resonance tests.
d) Variation in lateral restraint structure, soft and hard springs.

The test program also included pendulum collision tests of 1/5 scale and full-scale blocks, two-dimensional array tests, and instrumentation development in support of the final test.

The purpose of the test was to:

a) Study collision dynamics between graphite blocks.
b) Employ data to aid in verifying model scaling laws.
c) Investigate model dynamic behavior and response characteristics.
d) Provide specific data on block relative displacement, acceleration and strain; and measure boundary support forces.
e) Provide data for correlation with analytical models.
f) Provide preliminary design data.