LA-UR-22-24516

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Title:	YEARLY REPORT FOR THE PERIOD Jan-Dec 2021 - IC Project: w20_earthquake
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Intended for:	Report
Issued:	2022-05-13

YEARLY REPORT FOR THE PERIOD Jan-Dec 2021
IC Project: w20_earthquake

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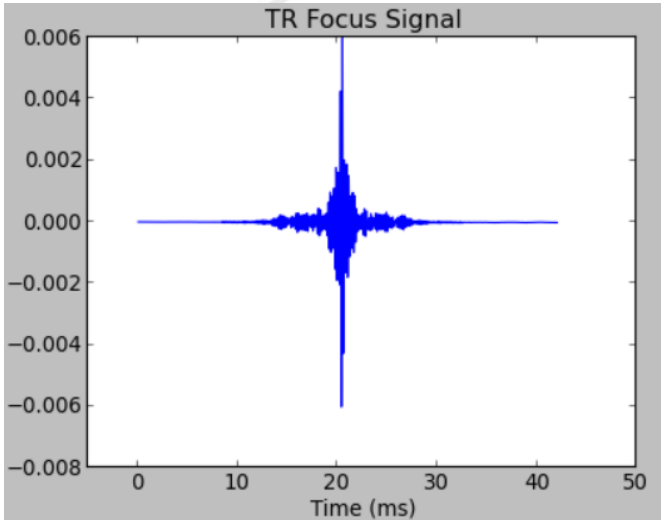
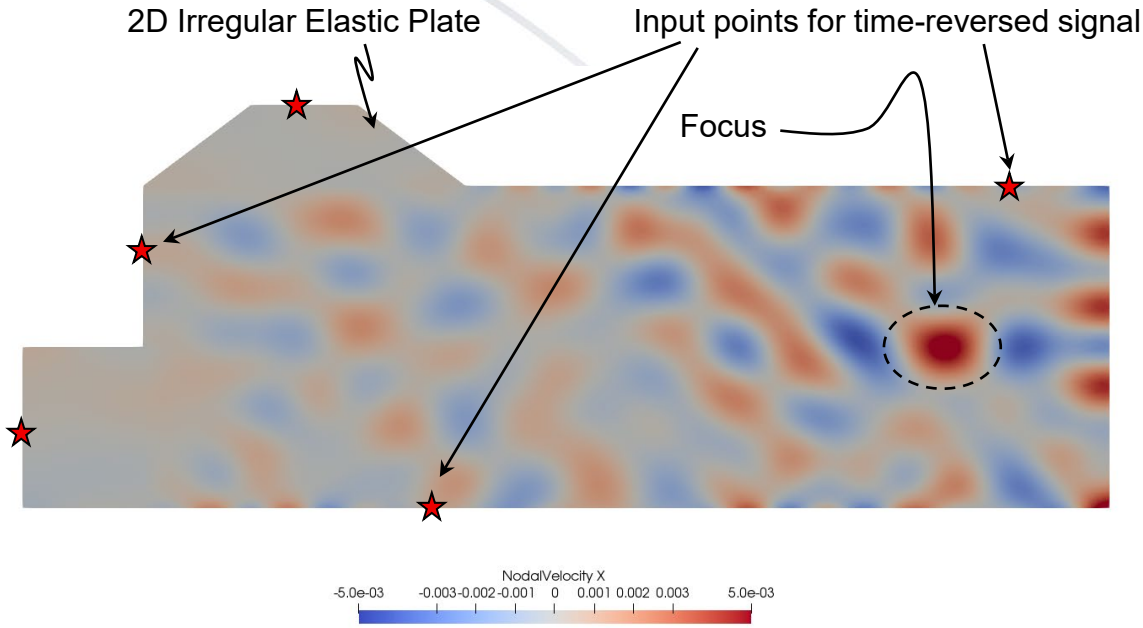
LA-UR-22-XXXXX

IC Project: w20_earthquake
Time Reversal



Focused signal using a 6 kHz training signal, in an asymmetric 2D domain with multiple material blocks.

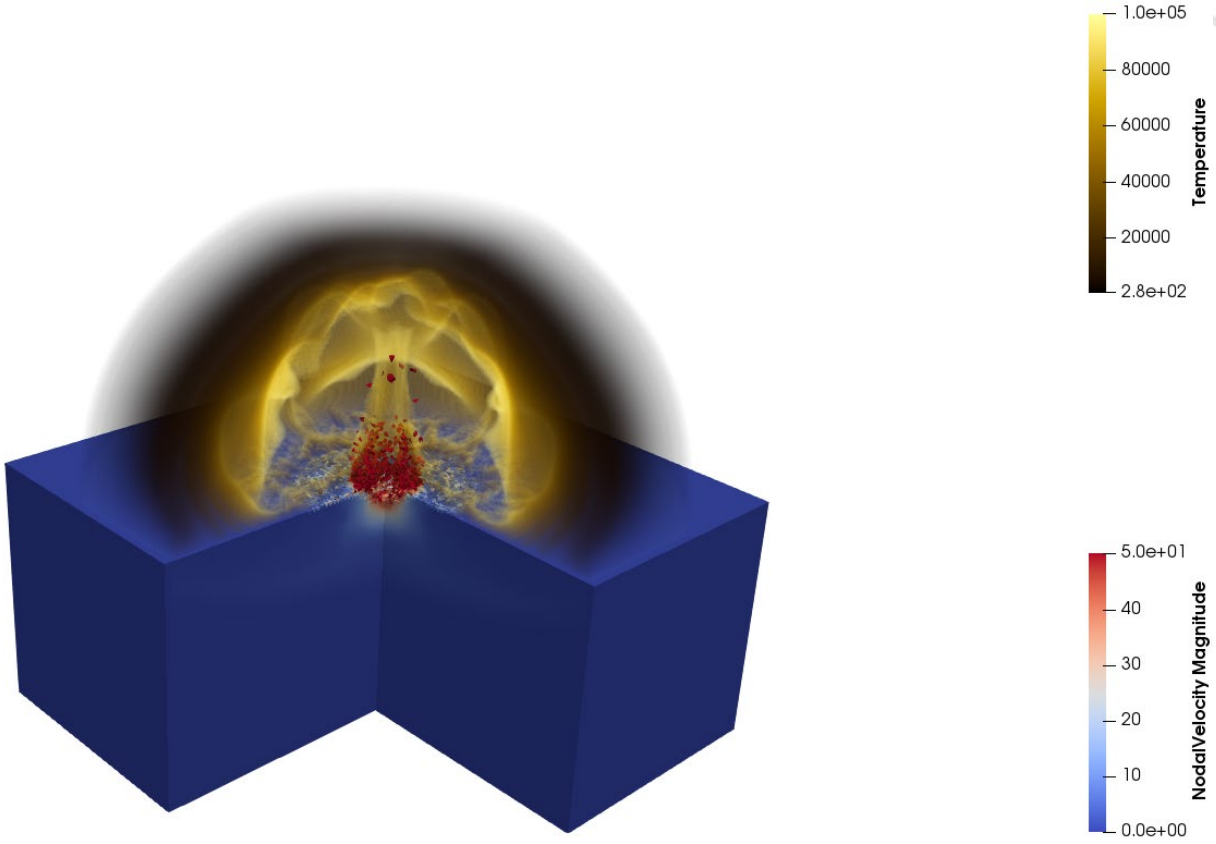


Visualization of the focused signal during the simulation.

Large-scale simulations were conducted using the computational tool HOSS to investigate scientific aspects of the time reversal process. The main focus was the identification of damage/defects in wellbores for relevant subsurface applications.

Simulations conducted by Samuel Boyce.

IC Project: w20_earthquake
HOSS-FSIS



Numerical modeling of a legacy nuclear event (SUGAR*) using the HOSS-FSIS capability

This work utilizes the HOSS-FSIS code in the simulation above ground legacy nuclear events. The results obtained from the simulations are compared against available observed data collected from these tests. This serves as a validation of the HOSS-FSIS code and also as a mean to obtain calibrated material models for these events.

Simulations conducted by Angel Padilla.

*DOE/NV--209-REV 16, September 2015, United States Nuclear Tests July 1945 through September 1992