

A Physics-Based Ground Motion Prediction Platform

李恩瑞 (En-Jui Lee)

國立成功大學 地球科學系
Dept. Earth Sciences, NCKU

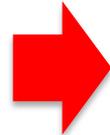
Overview



F3DT (Full-3D Waveform Tomography)

Numerical simulations

- **Seismic waveforms**
 - CWB
 - BATS



- **A high resolution model**
 - SC results

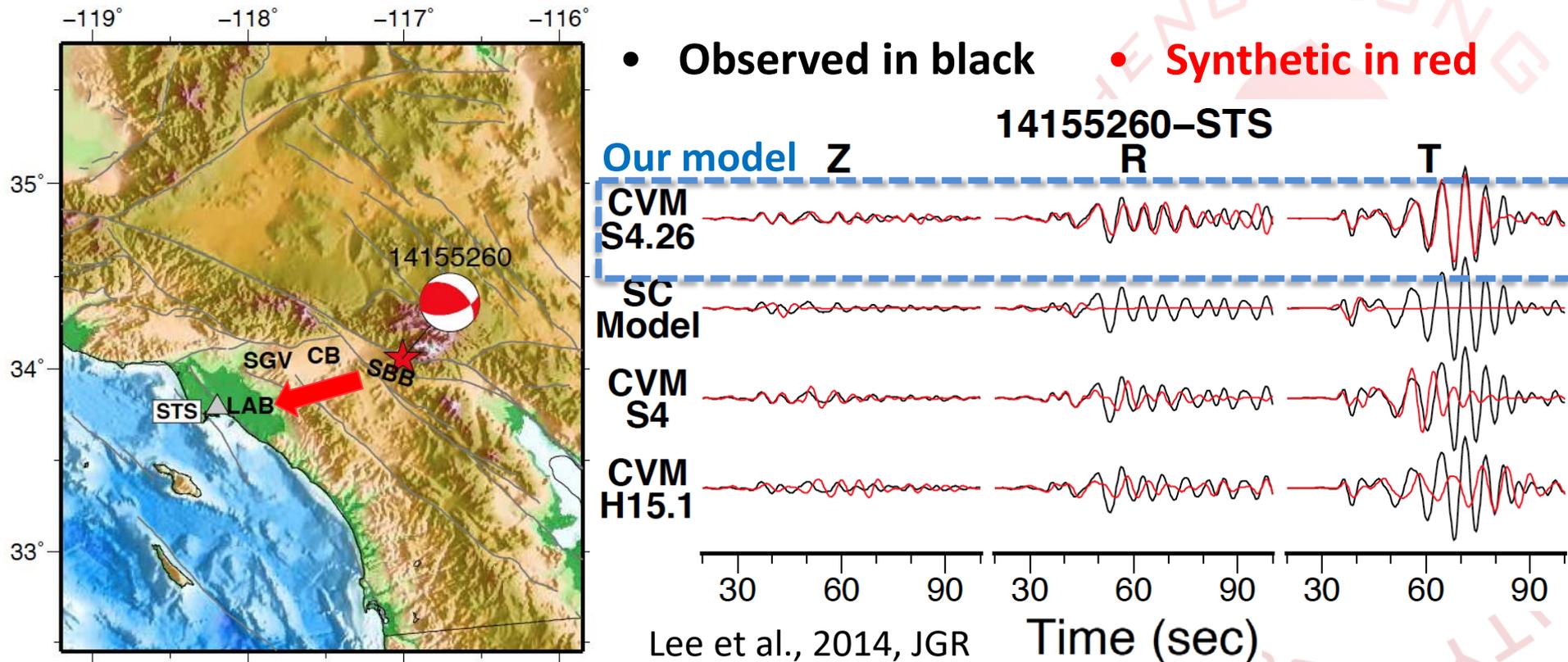


- **Reliable GM predictions**
 - Broadband GM
 - Various scenarios

SC waveform tomography



- Improvements on the velocity model → reliable ground motion predictions in LA

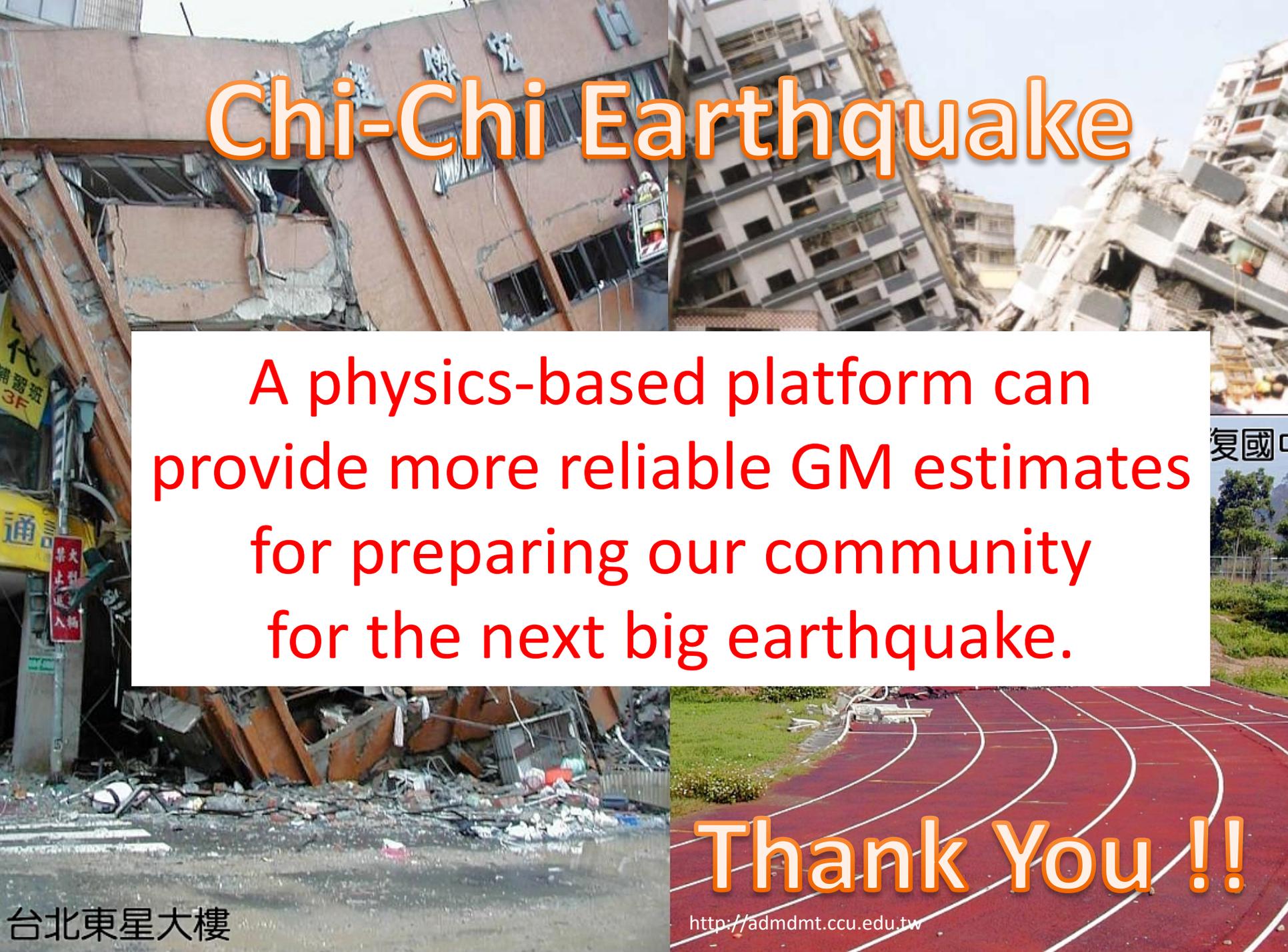


Reliable GM predictions



- Broadband Ground Motion Predictions
 - Low-F (deterministic) + high-F (stochastic) = Broadband (e.g. Maechling et al., 2015, SRL)
- Simulation-based Probabilistic Seismic Hazard Analysis (e.g. Graves et al., 2010)
 - More accurate estimates than that of GMPEs
- Different earthquake scenario simulations
 - Earthquake simulations (e.g. Cui et al., 2009)
 - Near-fault strong GM estimates (e.g. Graves, 2017)

Chi-Chi Earthquake



A physics-based platform can provide more reliable GM estimates for preparing our community for the next big earthquake.

Thank You !!

<http://admdmt.ccu.edu.tw>

台北東星大樓