KiK-net益城サイトの非線形地盤応答特性

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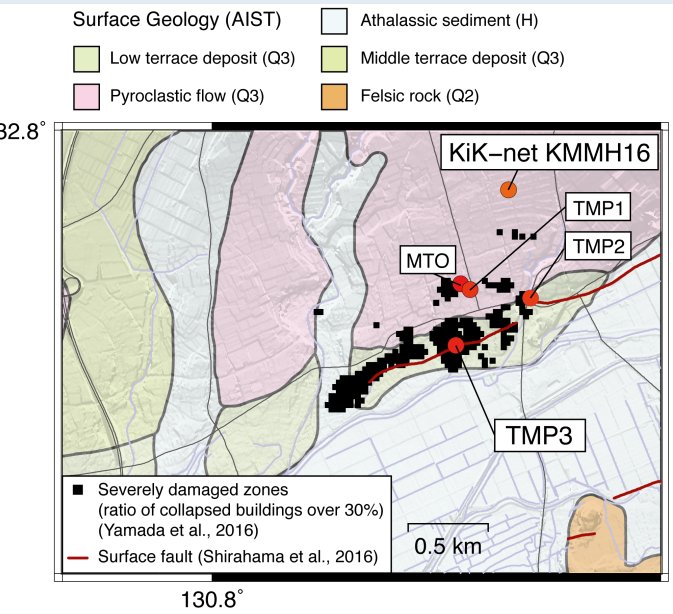
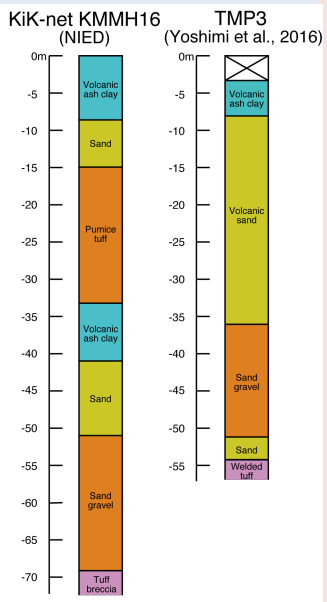
はじめに

- ✓ 2016年熊本地震では，益城町市街地に被害の甚大なエリアが表れた．
- ✓ KiK-net益城（KMMH16）の周囲は被害が限定的であったことに対し，TMP3の周囲は被害が甚大であった．

→ 地盤の非線形性による影響はどの程度か？





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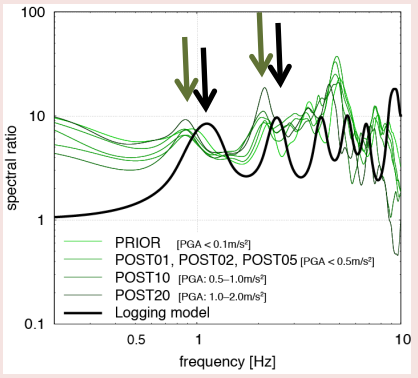
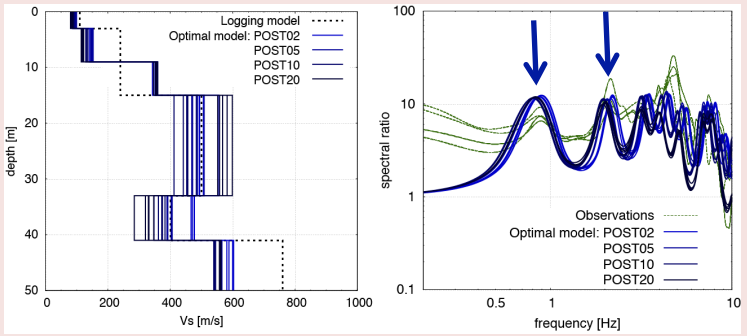
速度モデルの同定

地表／地中スペクトル比（EW）による分析

- ✓ 検層モデルの確認
  - – ピーク周波数のずれ（検層値より遅い？）

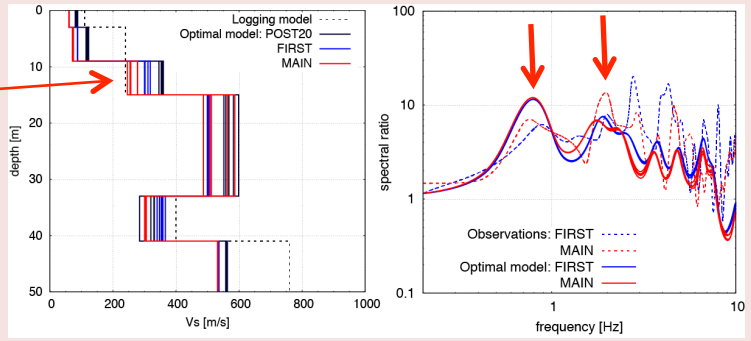


- ✓ 速度モデルの同定
  - – 小地震記録（地中PGA: 0.1-2m/s²）



  - – 前震・本震記録

明瞭な速度低下



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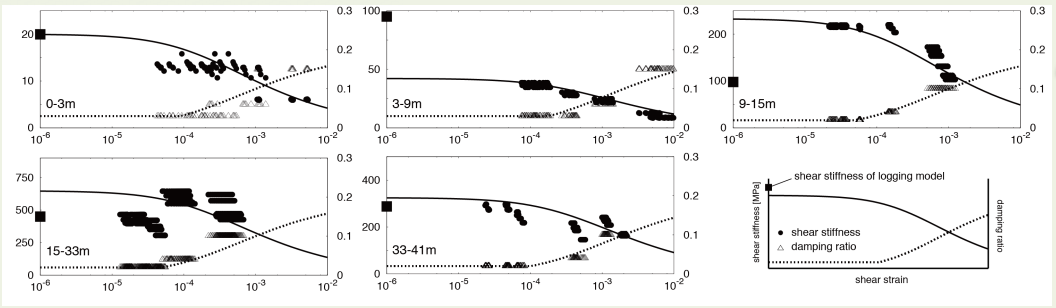
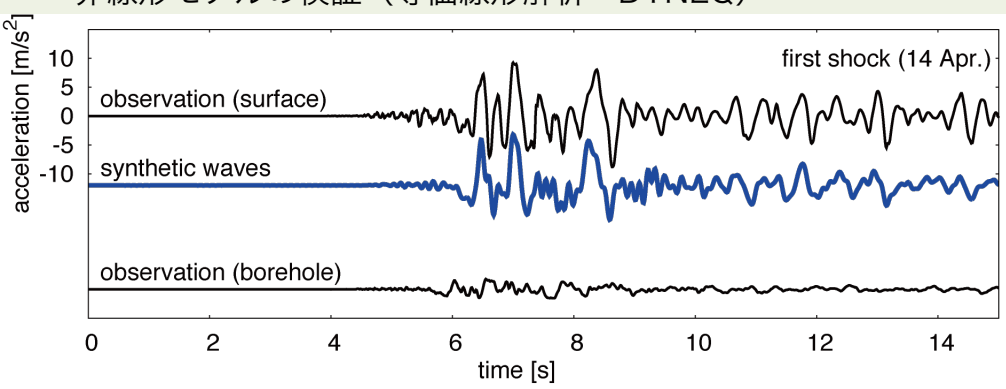
非線形モデルの構築

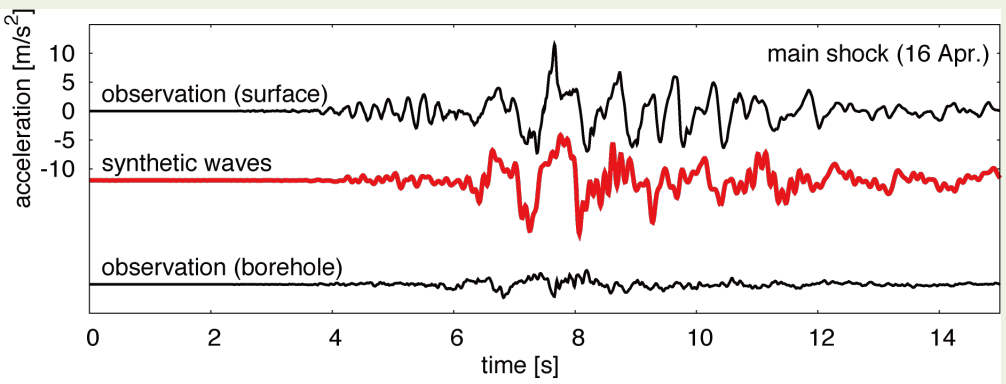
- ✓ G－γ，h–γモデル（RO）の同定



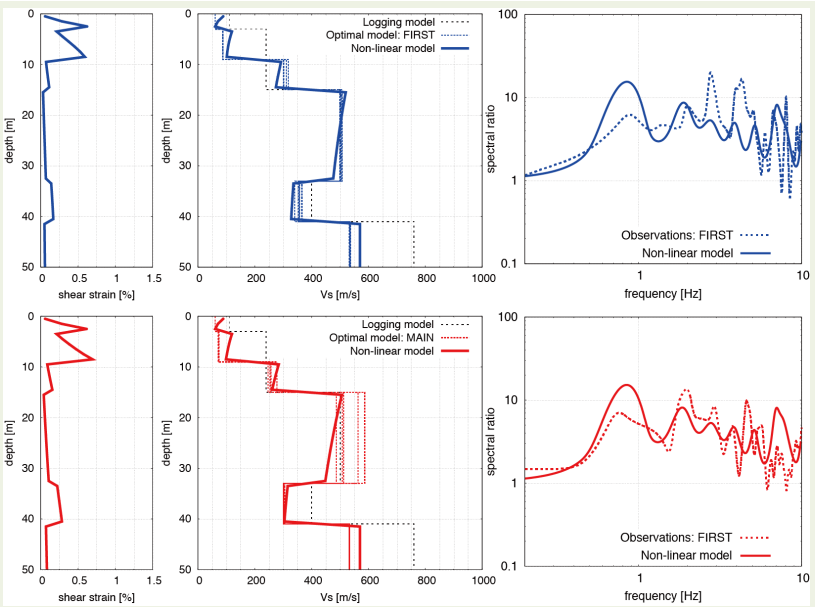
- ✓ 非線形モデルの検証（等価線形解析：DYNEQ）

非線形モデルに地中記録を入力して，地表の応答を計算

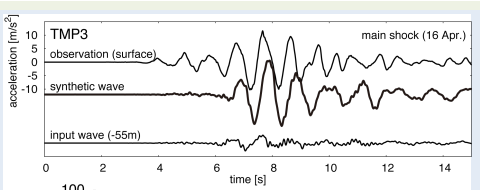


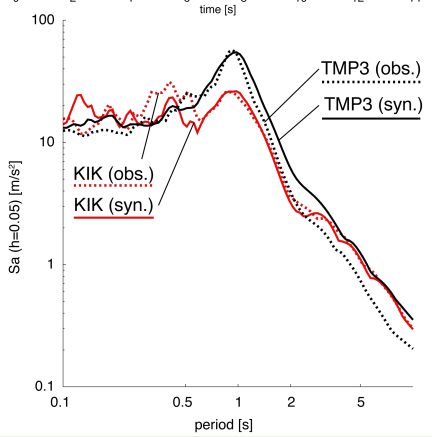
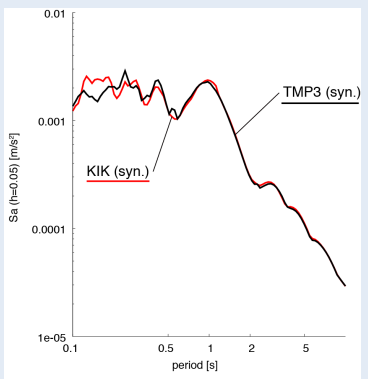


- – 最大ひずみ
- – S波速度
- – スペクトル比



TMP3について





基盤入力波を1/100倍（本震）にした場合