1. INTRODUCTION

2. THE GEOREALISTIC VELOCITY MODEL IN TAIWAN CASE

- Active seismic (reflection, refraction) - interfaces and waves velocity
- Seismic array on land - waves velocity
- Geochemical data
- Tectonic data

3. 3D ABSOLUTE EARTHQUAKE LOCATION

- MAXI method
- Synthetic tests show that the MAXI method is adopted to perform 3D absolute earthquake location
- Uncertainties volume defined as representative in 70% cases depending of the quality of the velocity models used and of the arrival times used
- The conventional 1D location and the statistical uncertainties are inadequate in a purely 3-dimensional environment

Taiwan case

The marker determination in arrival times dataset is succesful. However, this determination is highly dependent to the velocity model.
A major low velocity zone under the Ilan plain is highlighted because it is no considered in the initial 2D velocity model used.

4. SYNTHETIC TESTS

5. PRELIMINARY RESULTS FOR ABSOLUTE EARTHQUAKE LOCATION OFFSHORE EASTERN TAIWAN

CONCLUSION

- Synthetic tests show that the MAXI method is adopted to perform 3D absolute earthquake location
- Uncertainties volume defined as representative in 70% cases depending of the quality of the velocity models used and of the arrival times used
- The conventional 1D location and the statistical uncertainties are inadequate in a purely 3-dimensional environment
- The marker determination in arrival times dataset is successful. However, this determination is highly dependent to the velocity model.
- A major low velocity zone under the Ilan plain is highlighted because it is no considered in the initial 2D velocity model used.
- The horizontal location seems to be in agreement with geological evidence.
- Vertical location need more efforts in order to improve seismological and geological correlations.