

# Crustal structure of the Iberian Central System (Iberian Peninsula): The wide-angle seismic reflection CIMDEF experiment

1. INTRODUCTION  
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## Intraplate mountain ranges

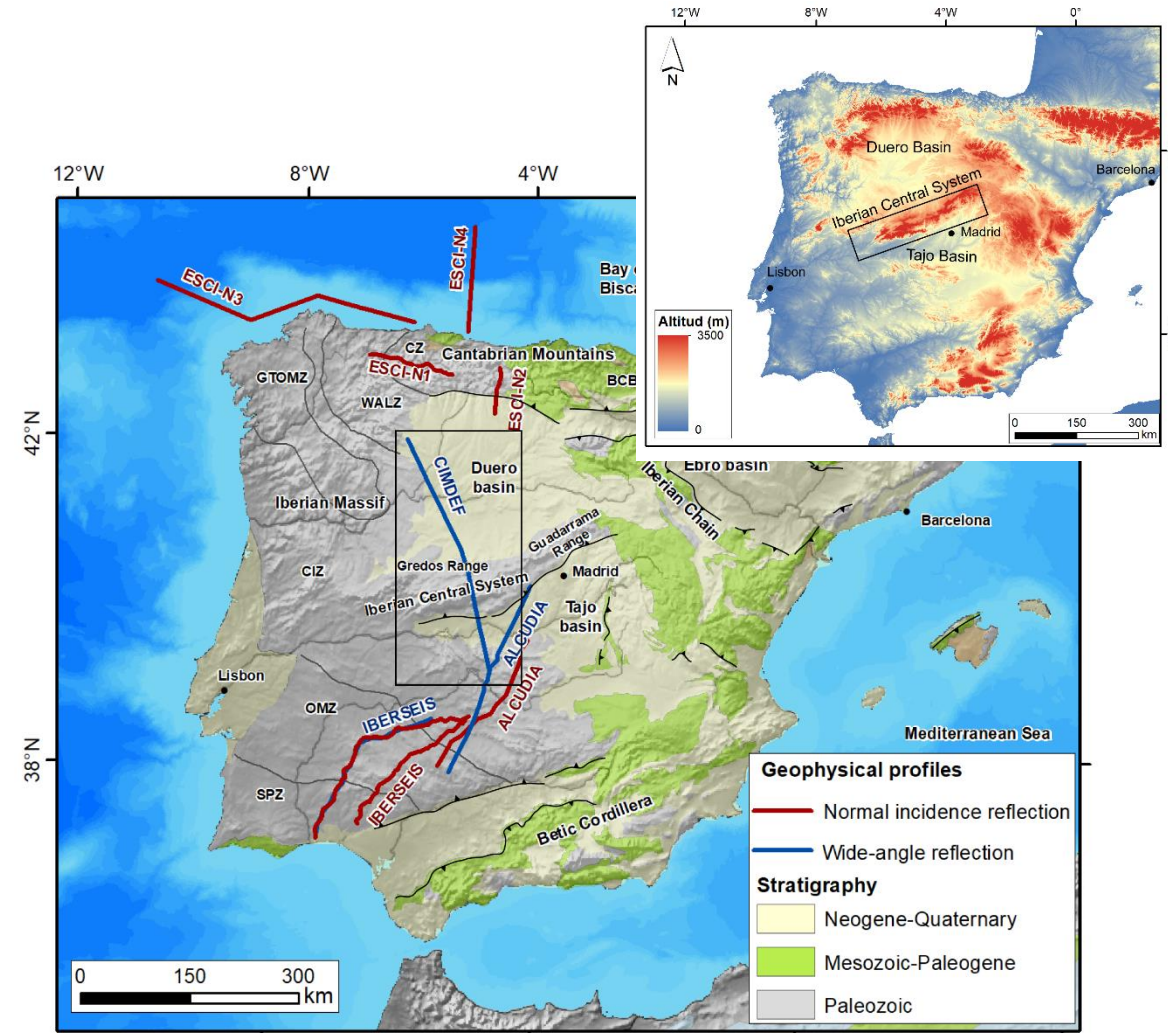
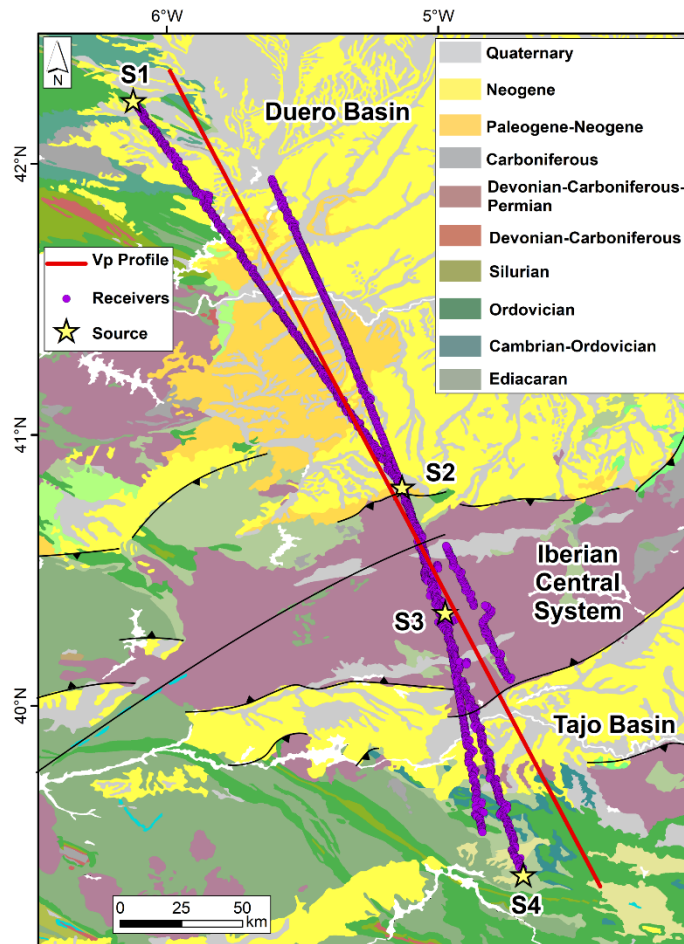
Which mechanisms support its elevation?

What is its lithospheric structure?

## Case study: Iberian Central System

Has the Variscan mid-crustal detachment level been inherited during the Alpine orogeny?

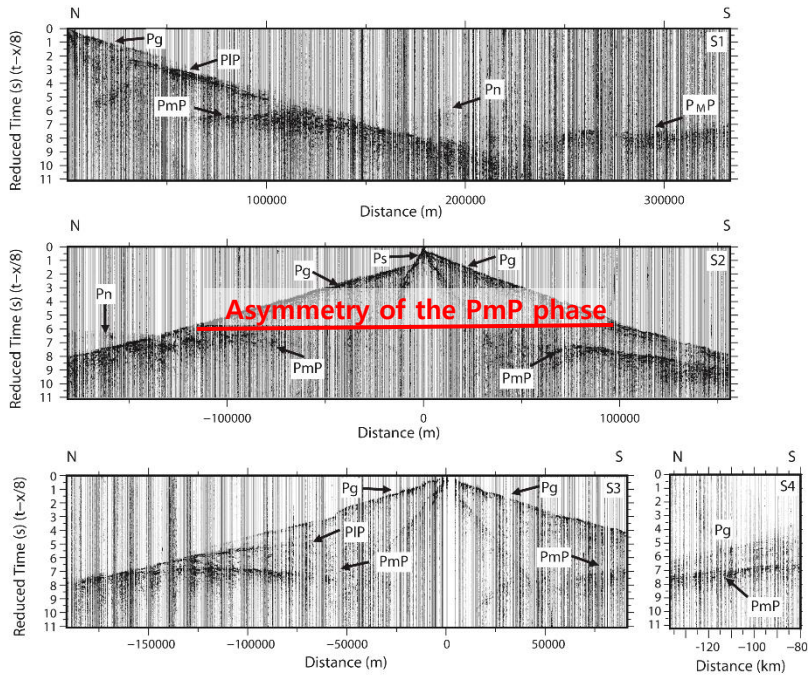
Do upper crustal faults also affect the lower crust?



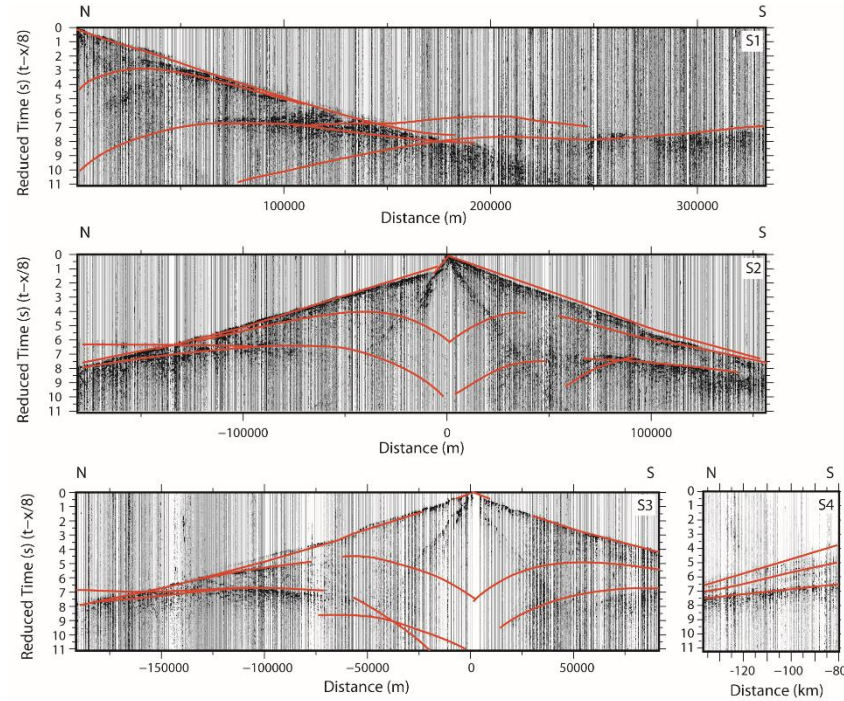
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2. MAIN RESULTS  
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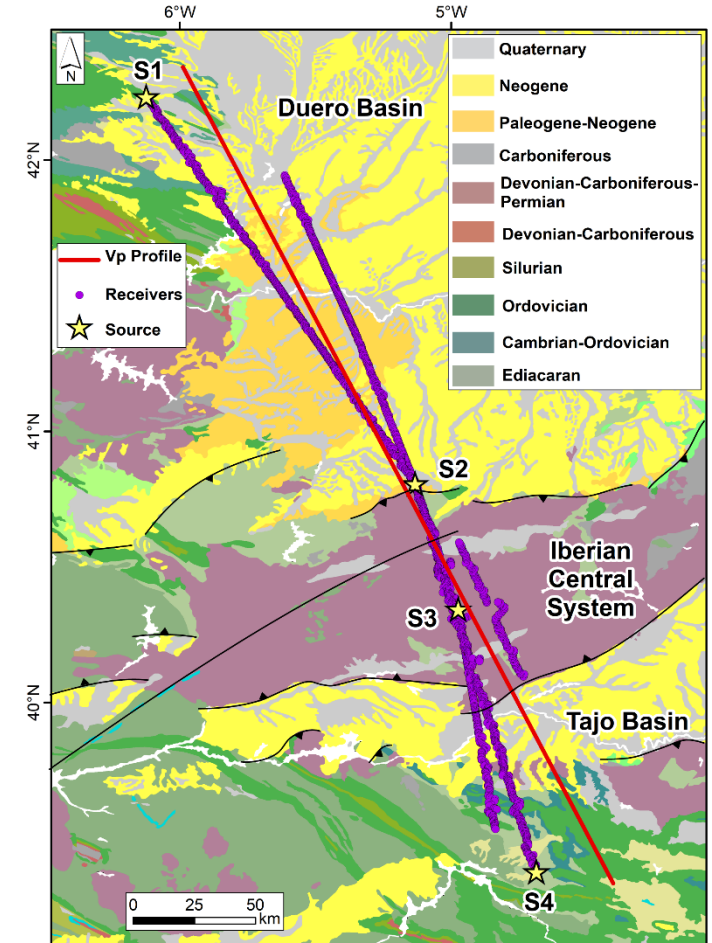
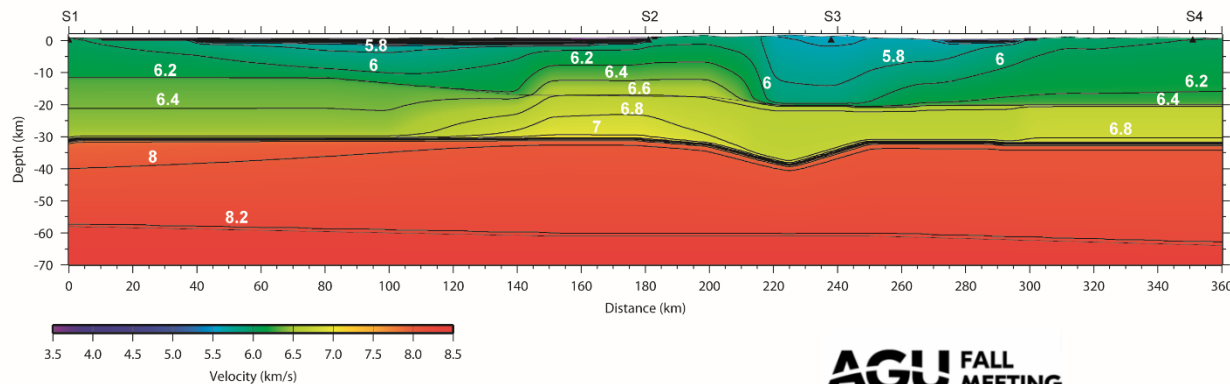
Identification of phases:



Phases predicted by forward modelling:



Preliminary  
Vp model:



- Lateral Vp gradients in the crust in agreement with the geology.
- Moho offset under the Iberian Central System.
- Upper mantle reflector at 58-62 km under the Duero basin.
- The Vp distribution suggests the existence of a crustal-scale thrust as the responsible of the exhumation of the Iberian Central System.
- An imbrication of the entire crust could partly explain the different altitudes in the foreland basins.

