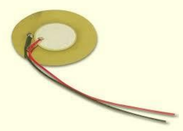
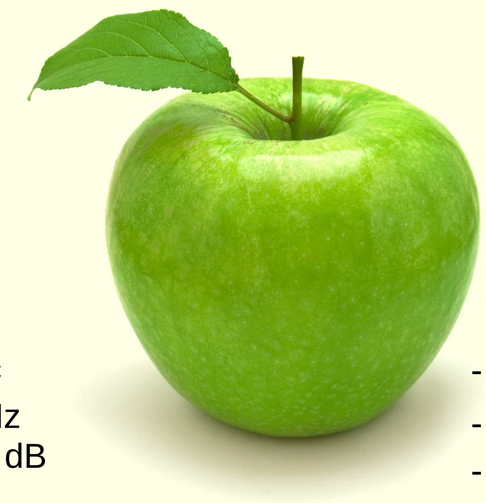
# Surface acoustic waves for the characterization of fruit

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## Earthquake in apple





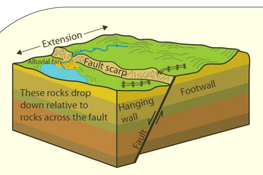


Source :

- Piezo ceramic
- Burst at 20 kHz
- Amplifier: +40 dB

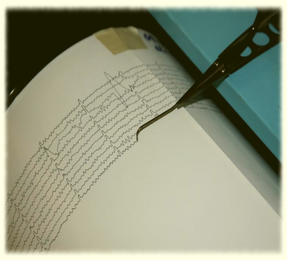
Acquisition :

- Laser vibrometer
- Step of 1° over 325°
- Sampling frequency: 1 MHz



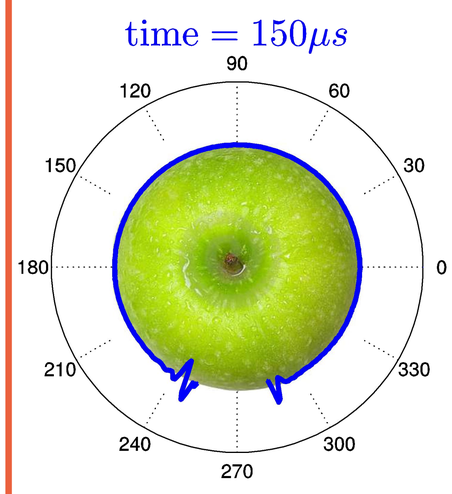

http://www.nature.nps.gov

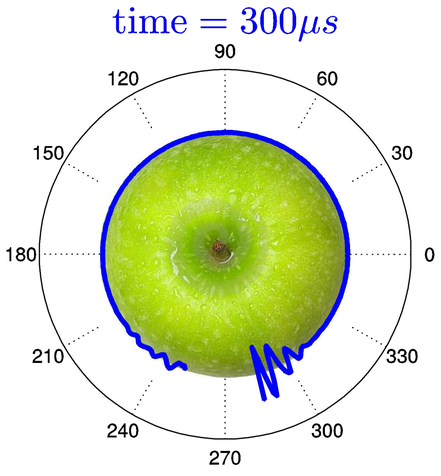


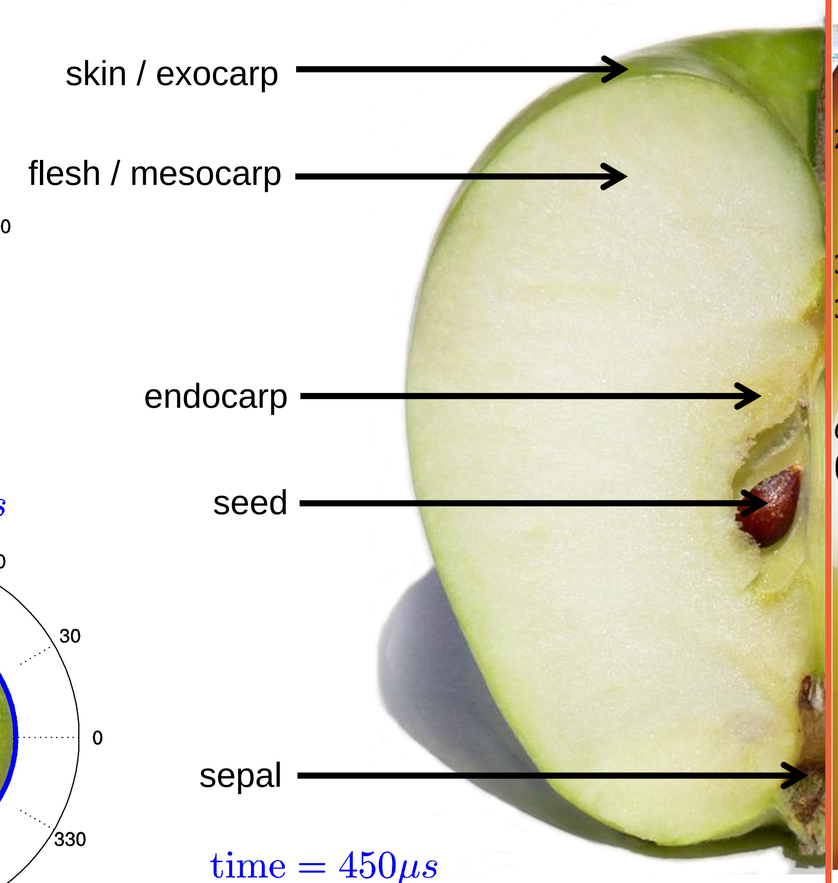


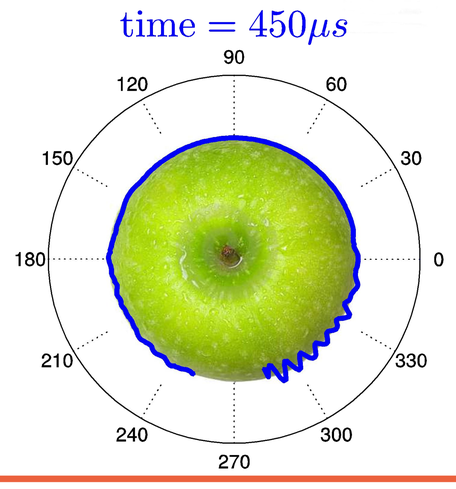
Acquisition :

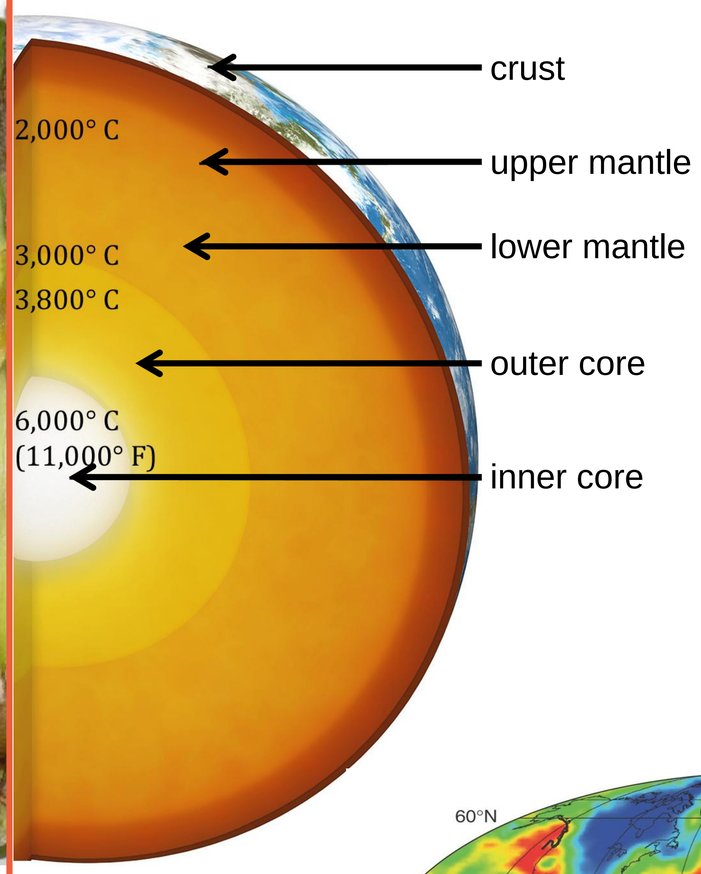
- Seismograph
- Geophones

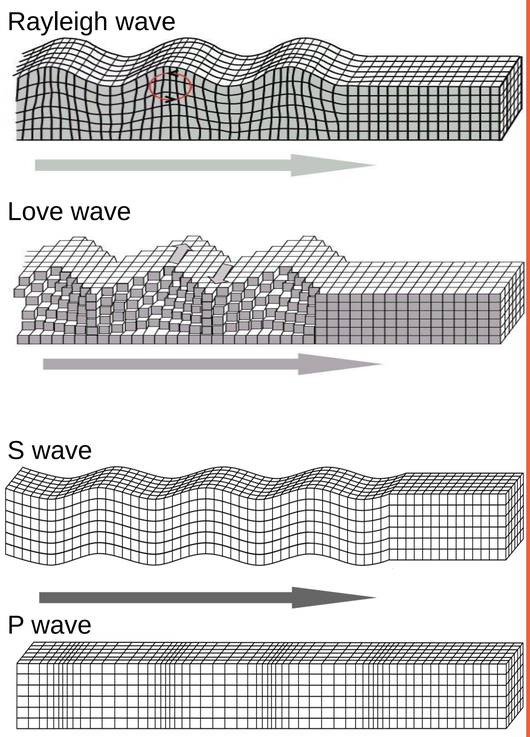


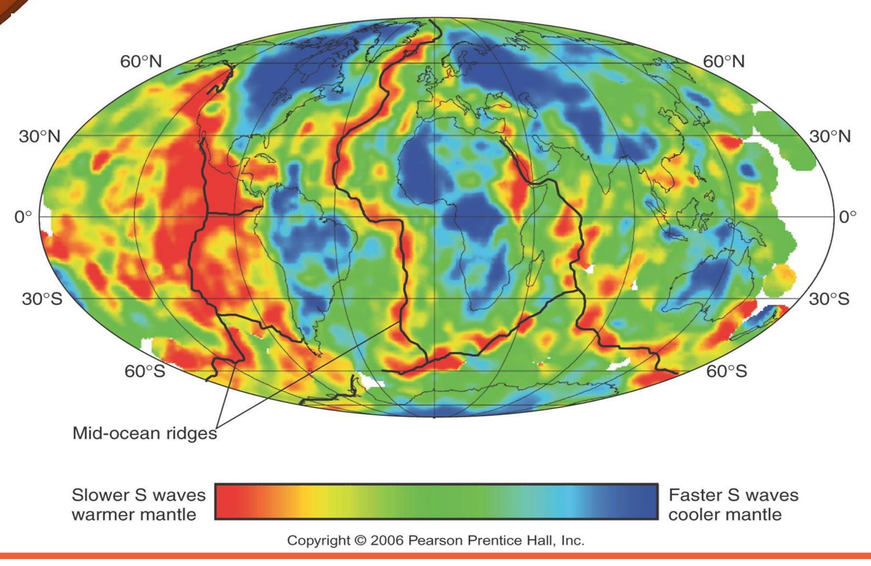




## Perspectives

Relate SAW to density, bulk and shear moduli of the apple flesh and skin in view of apple inhomogeneity

Relations between these mechanical properties and fruit quality parameters

Bibliography

[1] Rayleigh Lord J.W.S. *On waves propagated along the plane surface of an elastic solid,* Proceedings of the London Mathematical Society, **17** (1887) 4-11.

[2] N. Jiménez, R. Picó, F. Camarena, J. Redondo, B. Roig. *Postharvest Biol Technol* **67** (2012) 130-137..