Elastic Rebound Theory

Failure during Earthquake

Stressed (locked fault)

Relaxed

First Motions

P-wave Radiation Pattern
Radiation Patterns
• In seismology we call the direction a receiver is from a source the azimuth:

The azimuth is always measured clockwise from North and varies between 0 and 360 degrees.
Earthquake focal mechanisms will always have variations in polarity. Some stations will have first motion up, others first motion down.
First Motions: Denali Earthquake

Earthquake Focal Mechanisms

Reverse

Normal