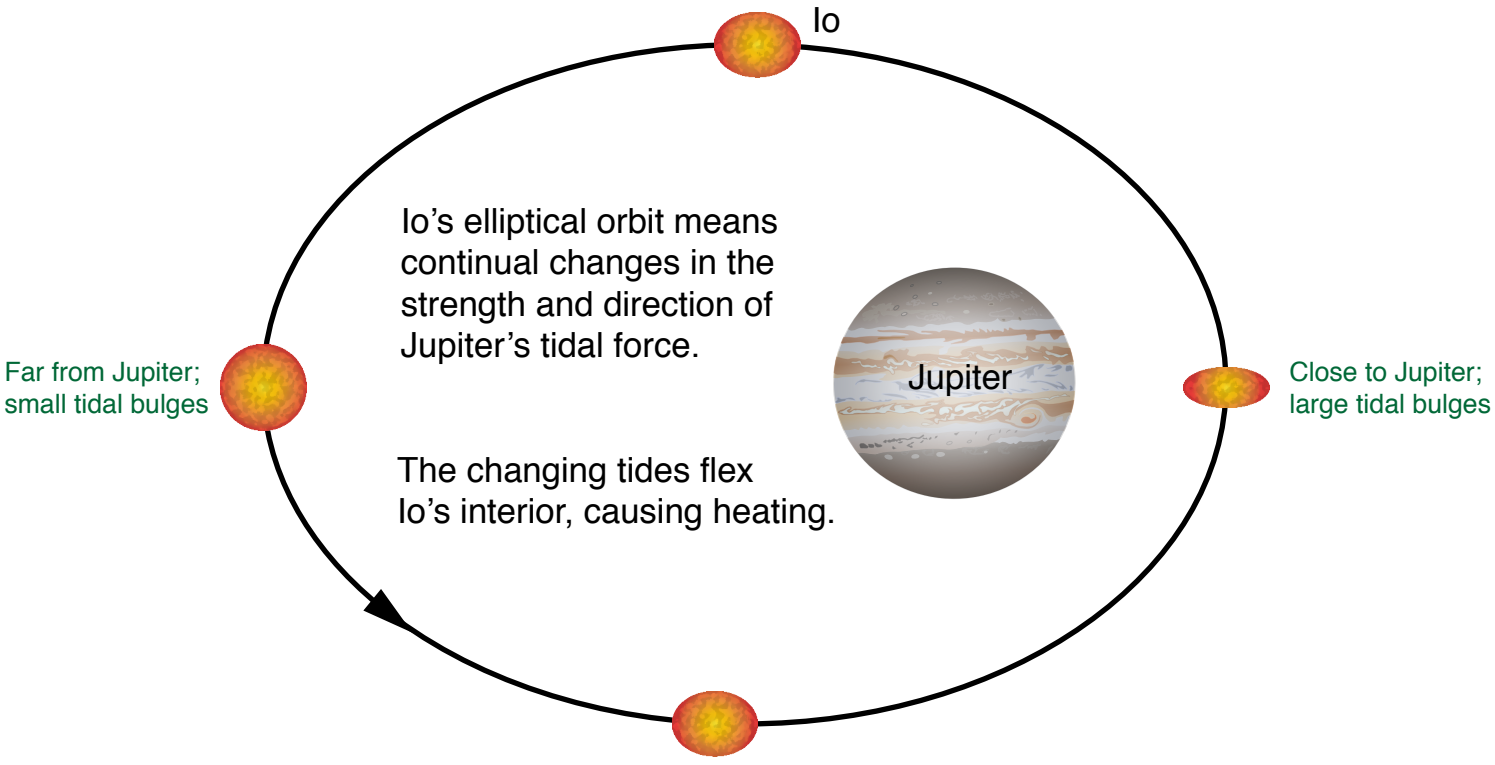
Io
Io's elliptical orbit means continual changes in the strength and direction of Jupiter's tidal force.
Jupiter
Far from Jupiter; small tidal bulges
Close to Jupiter; large tidal bulges
The changing tides flex Io's interior, causing heating.