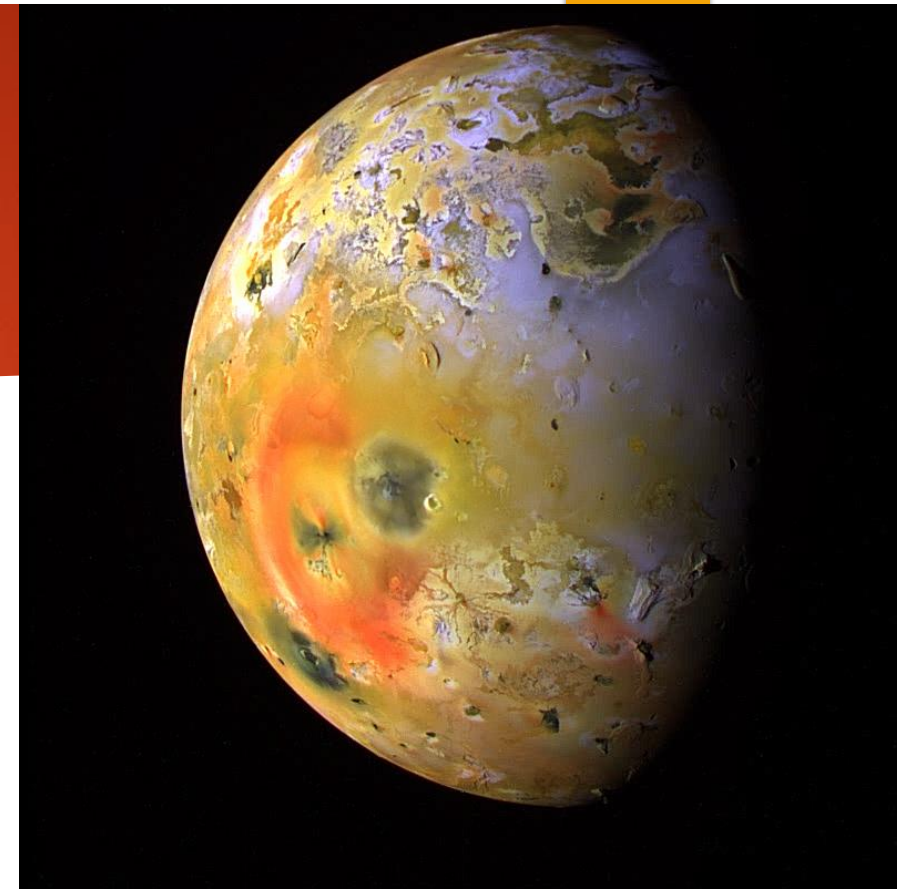


# Outline

- ▶ Spectroscopic data was collected from the literature and fit in PGOPHER.
- ▶ Mechanical constants obtained and used to produce RKR potentials.
- ▶ Electric transition dipole moments (TDMs) obtained from *ab initio* calculations.
- ▶ TDM and RKR potentials put into LEVEL to get band strengths.
- ▶ Band strengths inserted into PGOPHER to produce line lists.
- ▶ Line lists of sufficient quality to be used to model atmospheric SO on Io.



NASA/JPL/University of Arizona 1999

Line lists for the  $b^1\Sigma^+-X^3\Sigma^-$  and  $a^1\Delta-X^3\Sigma^-$  transitions of SO, Bernath PF, Johnson RM, Liévin J, JQSRT 2021