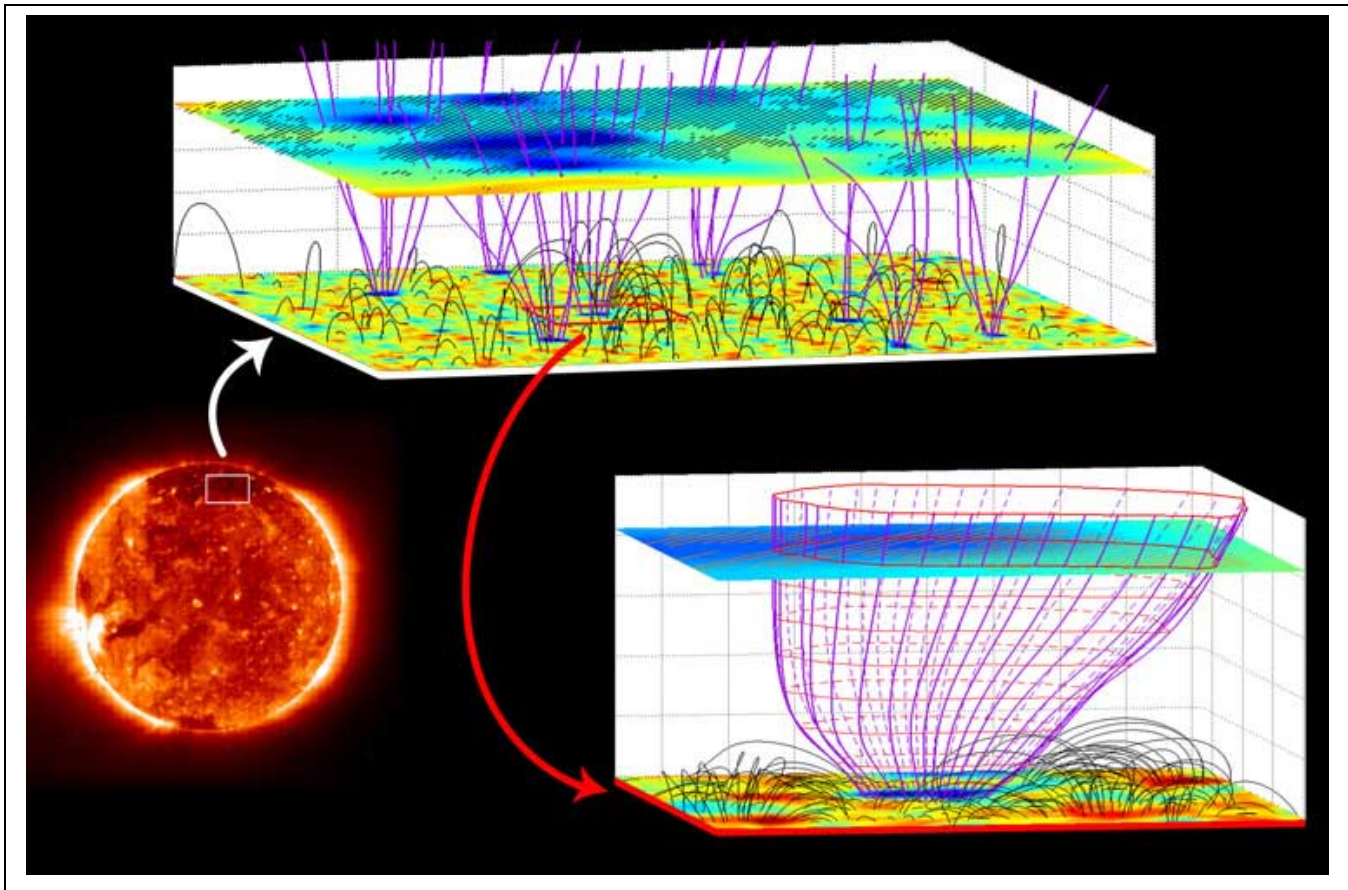


# Record of Fractionation Changes

Deep magnetic fields from the collapsed supernova core in the Sun bring  $H^+$  [10] to the solar surface unevenly. This causes mass-fractionation to vary in different parts of the Sun's surface [13, 14], and Earth's climate to change with the different magnetic cycles of the Sun [15].



## Stars with planets wobble and mix elements.

Recent surveys of stars reported high surface iron abundances when:

- Magnetic activity declines, as happened during Europe's Little Ice Age and the period of low sun-spot activity (1645-1714) [15],
- Planets orbit the star, inducing a center-of-mass wobble [16].