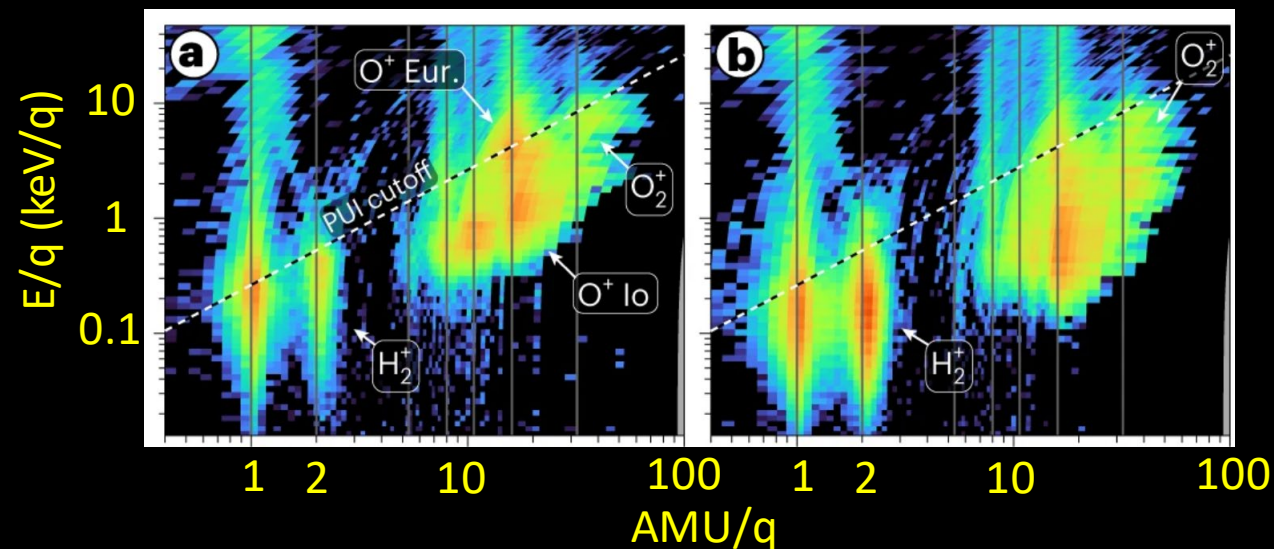
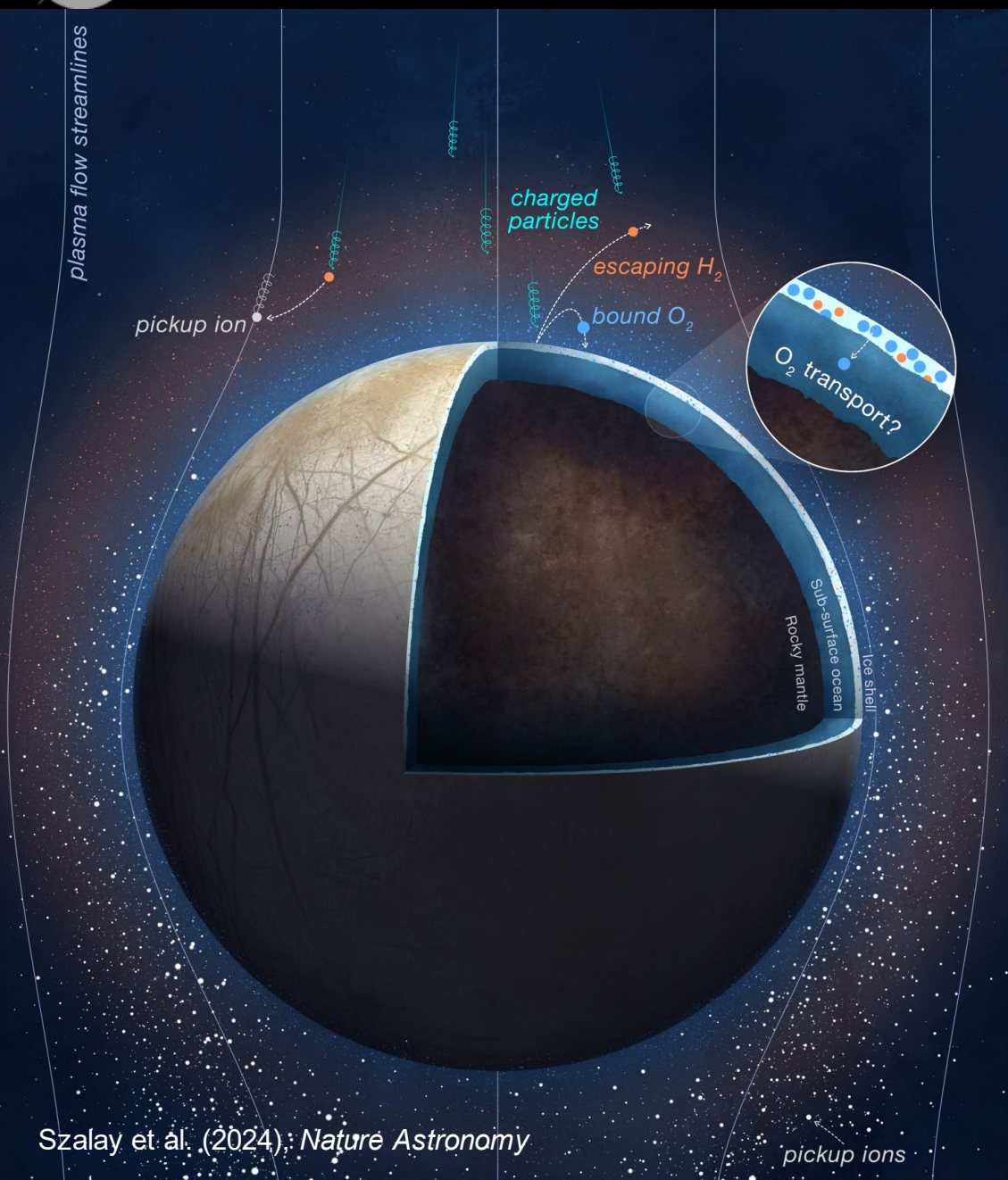


Juno Measures Oxygen Production at Europa



- Juno first to directly measure composition of charged particles (H_2^+ , O_2^+ & O^+) shed from Europa's atmosphere
- H_2^+ & O_2^+ pickup ions originate from Europa's neutral atmosphere, produced by dissociation of water molecules on Europa's icy surface after bombardment by charged particles
- Previous modeling studies estimated oxygen production at Europa of $5\text{-}1000 \text{ kg s}^{-1}$; Juno constrains this to $\sim 6\text{-}18 \text{ kg s}^{-1}$.
- Some of this oxygen could work its way into Europa's subsurface ocean as possible source of metabolic energy.