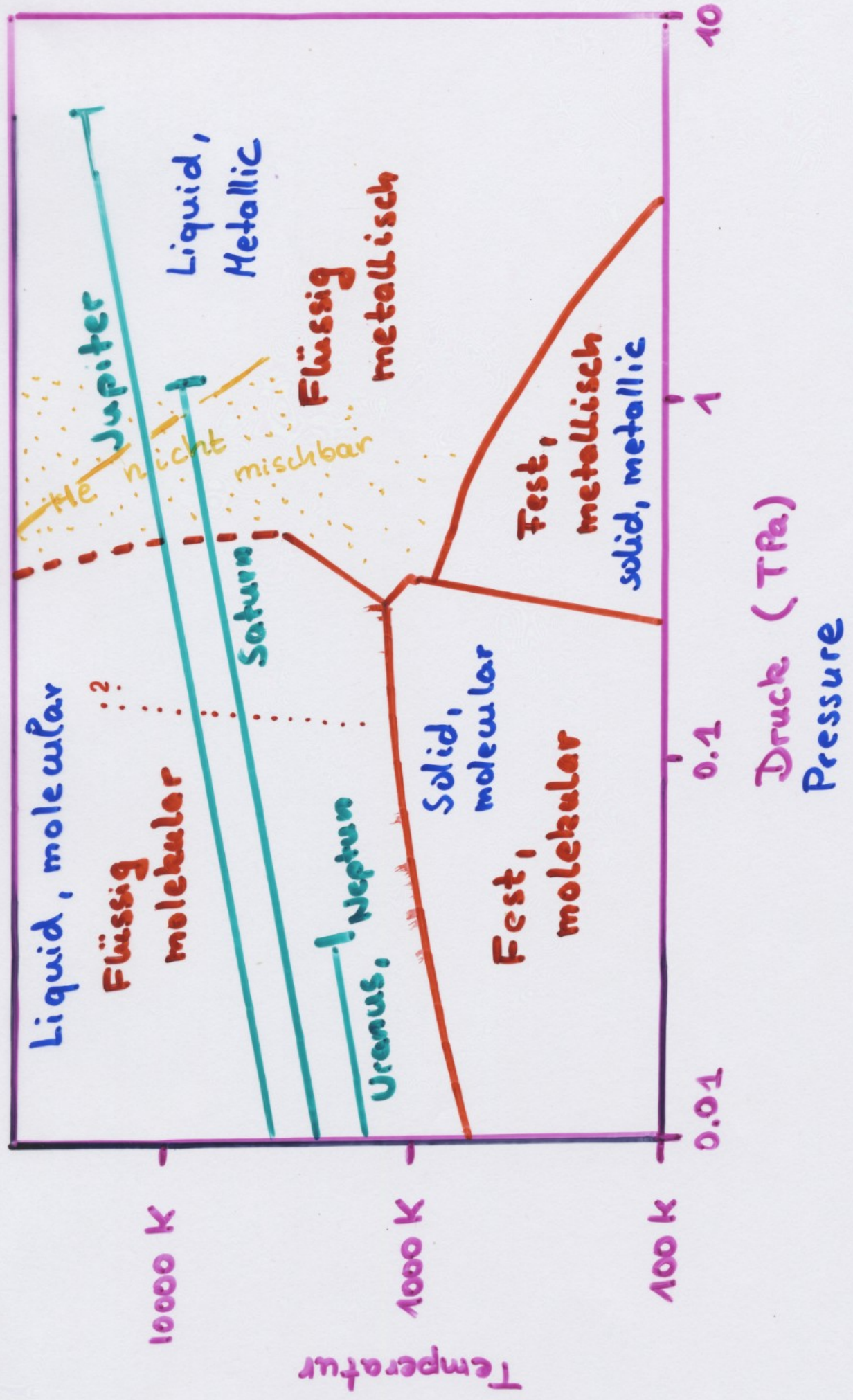
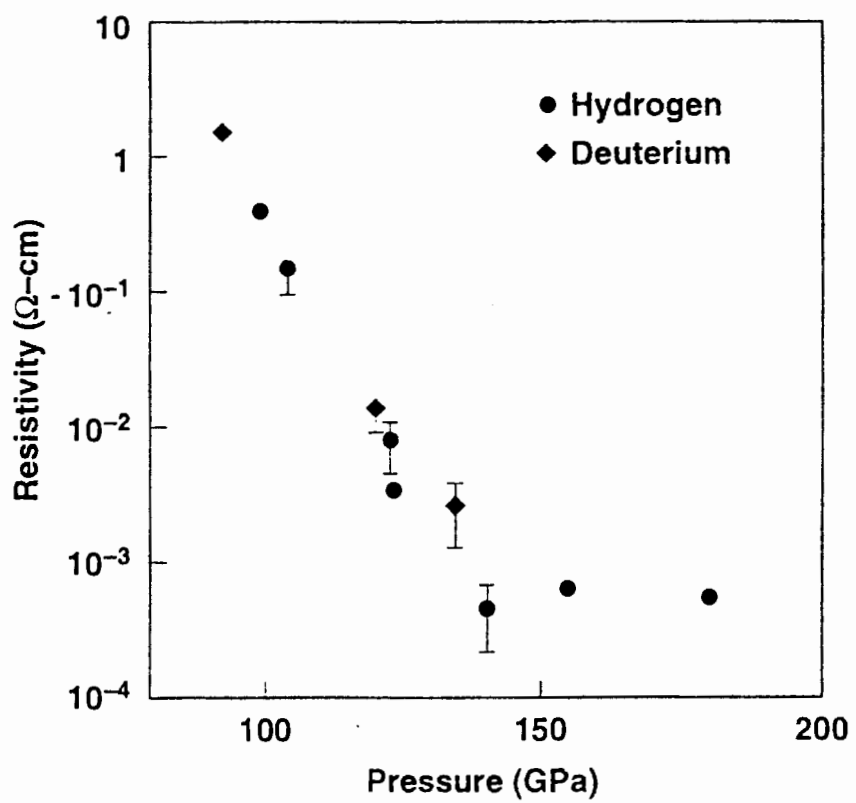


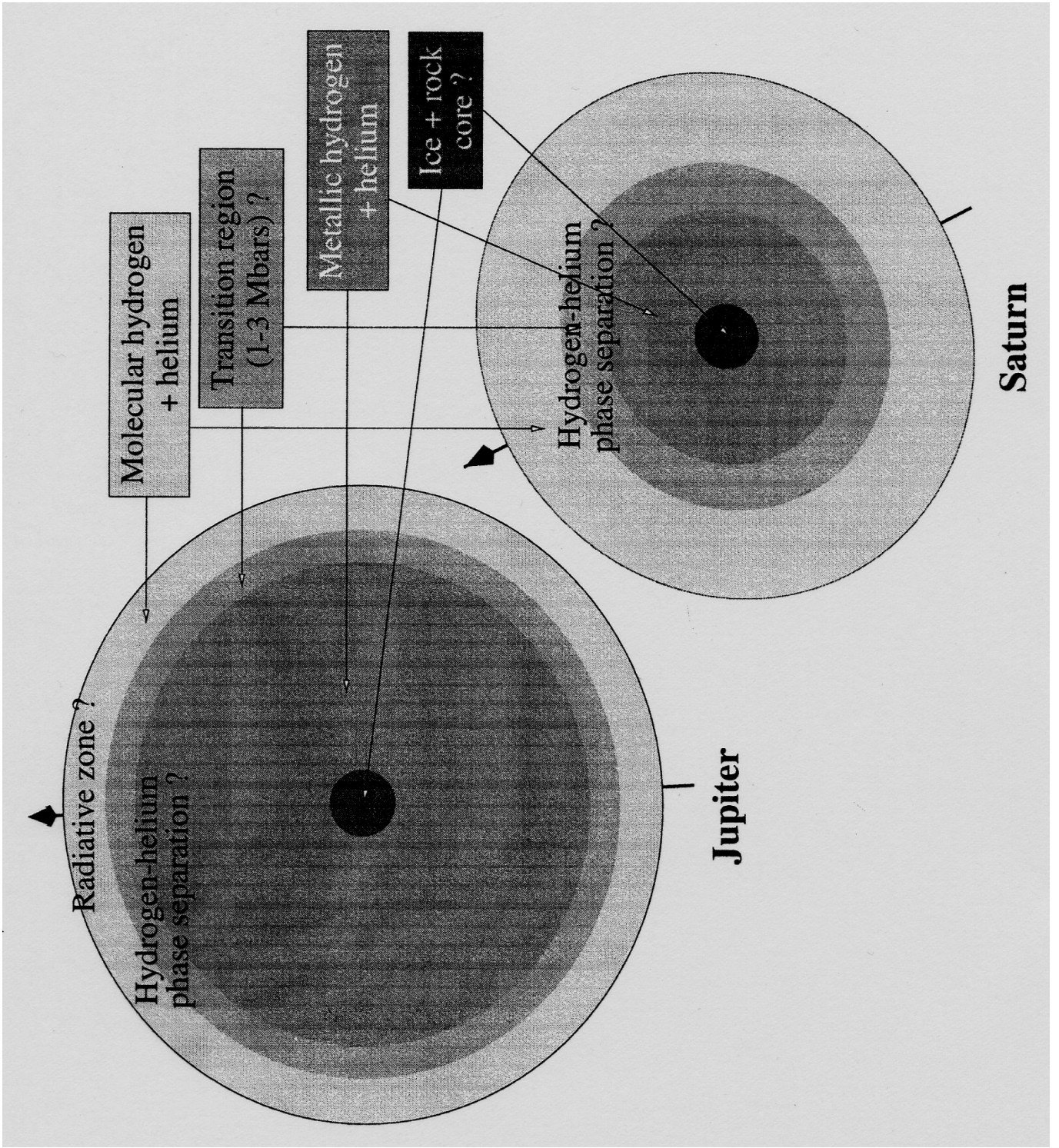
Properties of Jupiter and Saturn

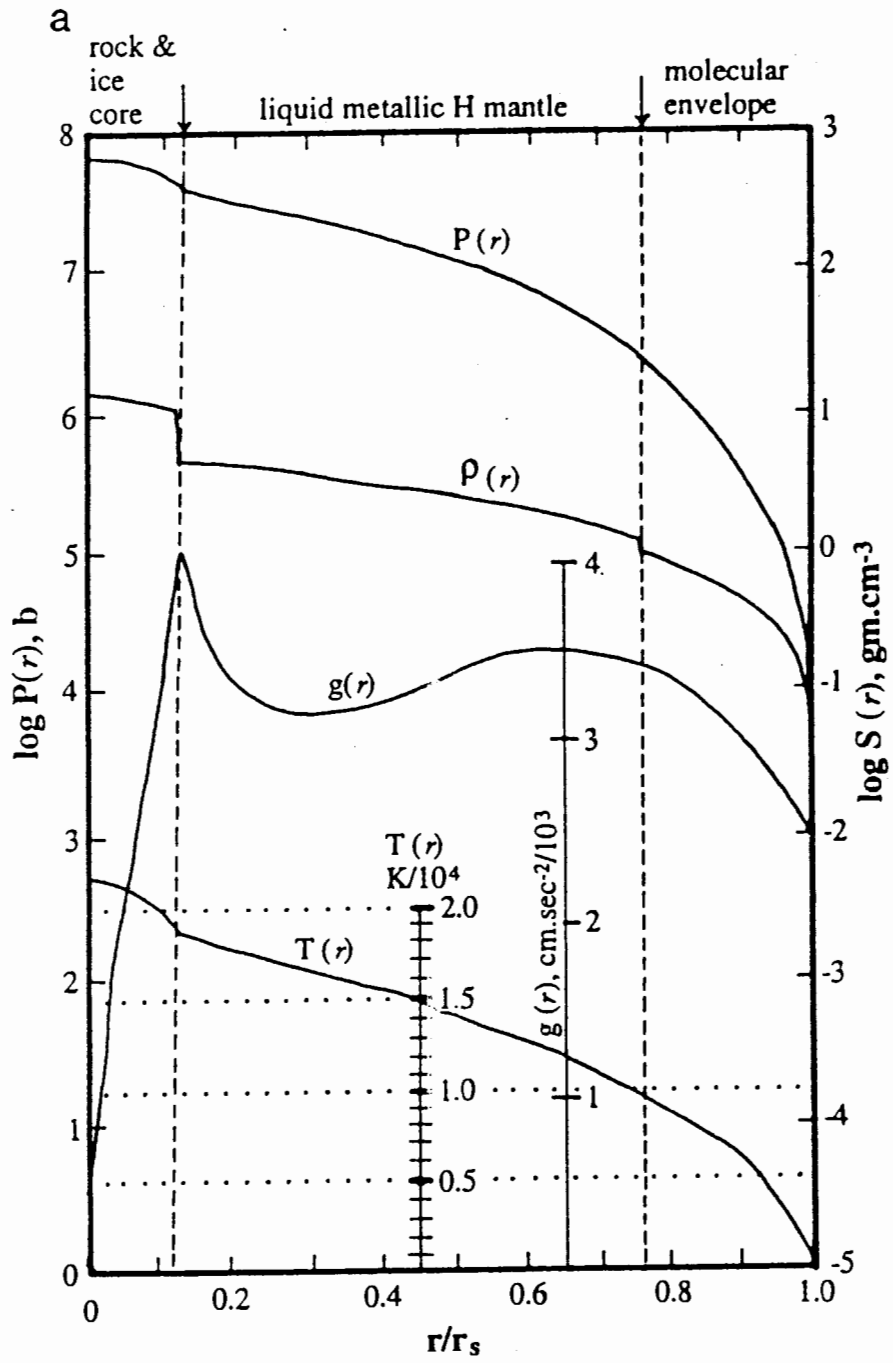
	Jupiter	Saturn
Radius (equatorial)	71500 km	60300 km
Flattening	1/15.7	1/9.8
Mass / Earth mass	318	95
Mean density	1.33 g/cm ³	0.69 g/cm ³
Rotation period	9.9 h	10.7 h
Equatorial gravity	22.9 m/s ²	9.1 m/s ²
Surface temperature	124 K	95 K
Emitted/absorbed power	1.7	1.8
Atmospheric composition		
H ₂	0.85	0.96
He	0.15	0.03
H ₂ O	0.001	0.002 ?
CH ₄	0.002	0.004
NH ₃	0.001	0.0005

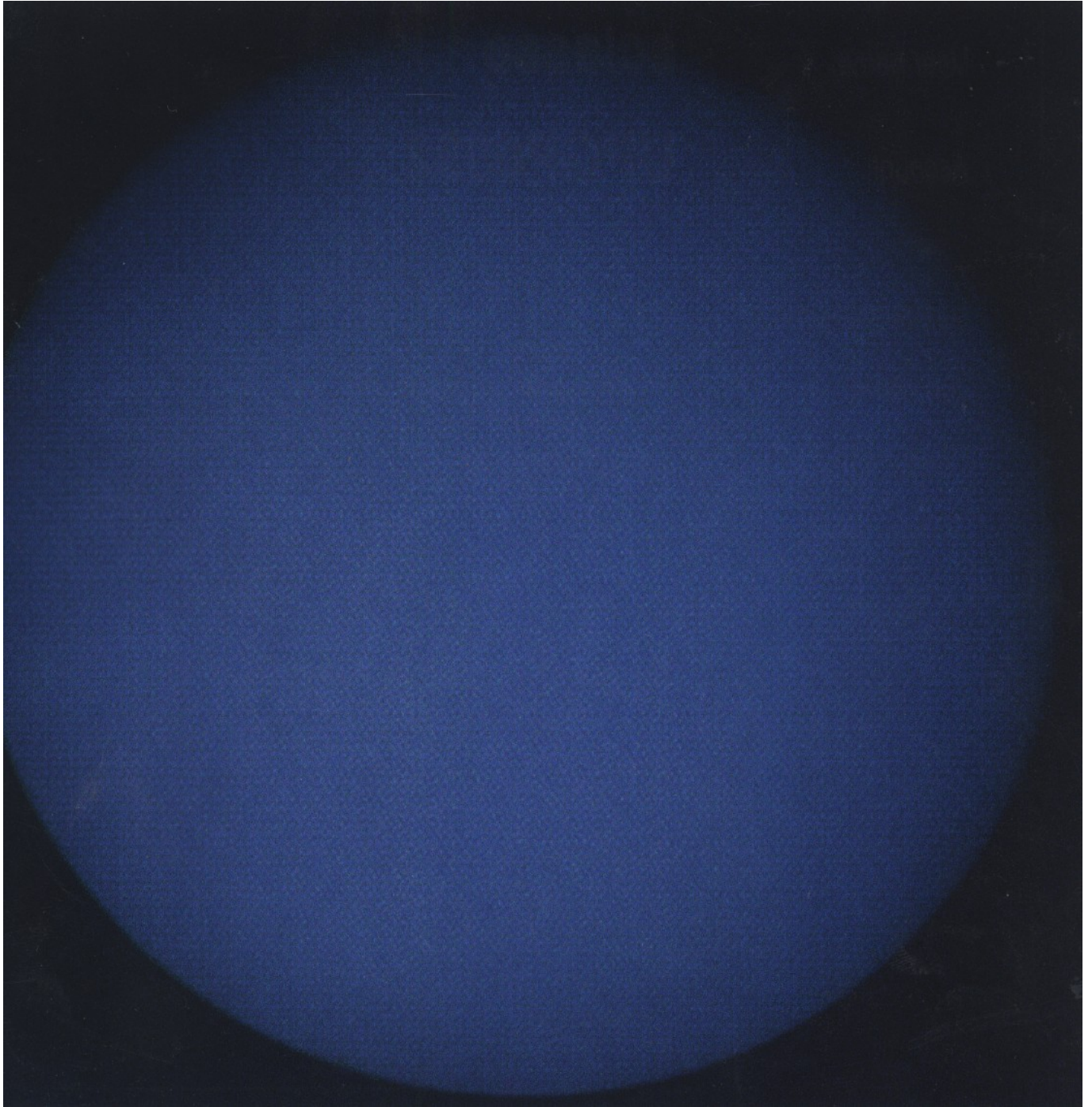
Theoret. Phasendiagramm von Wasserstoff

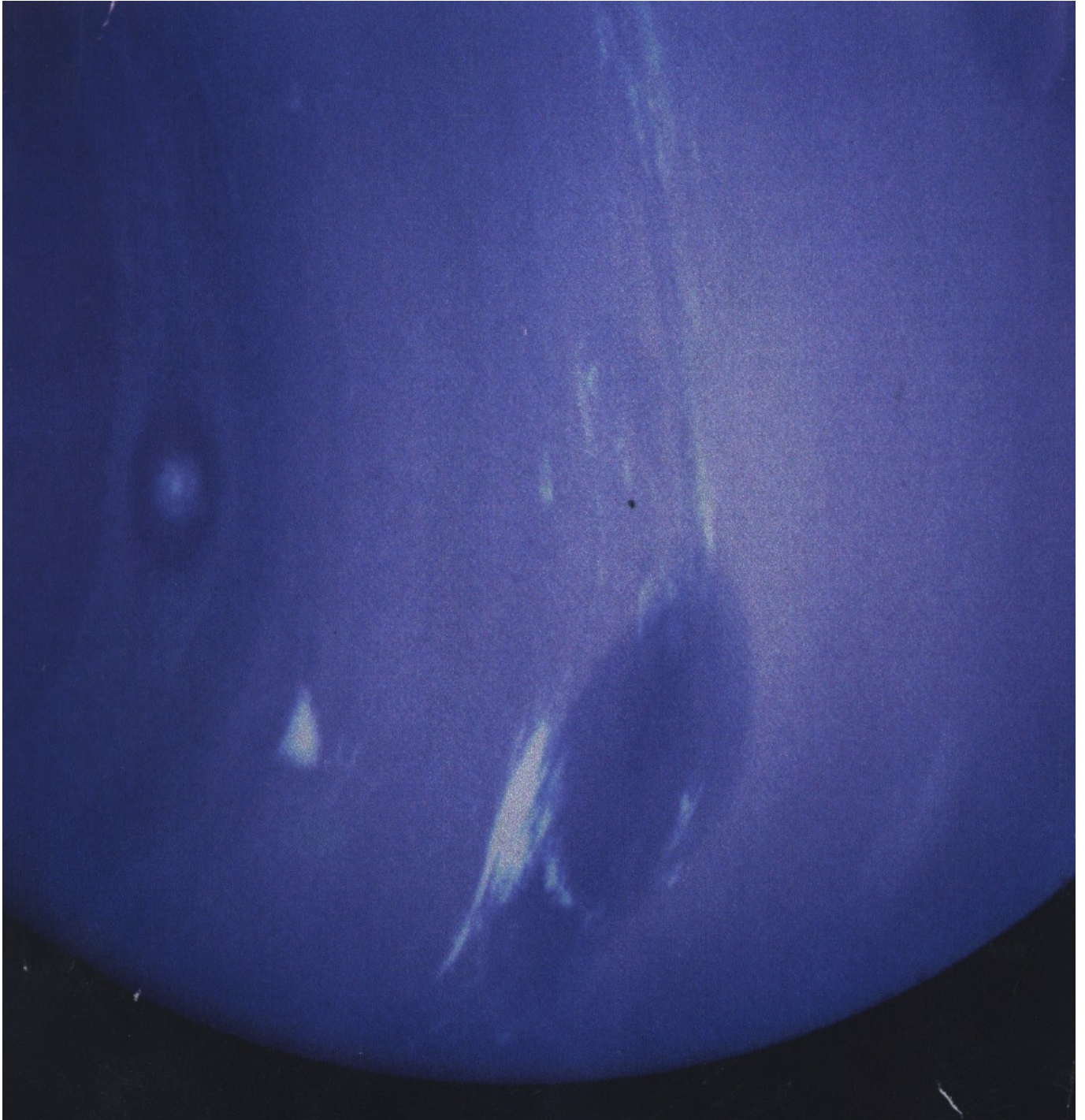






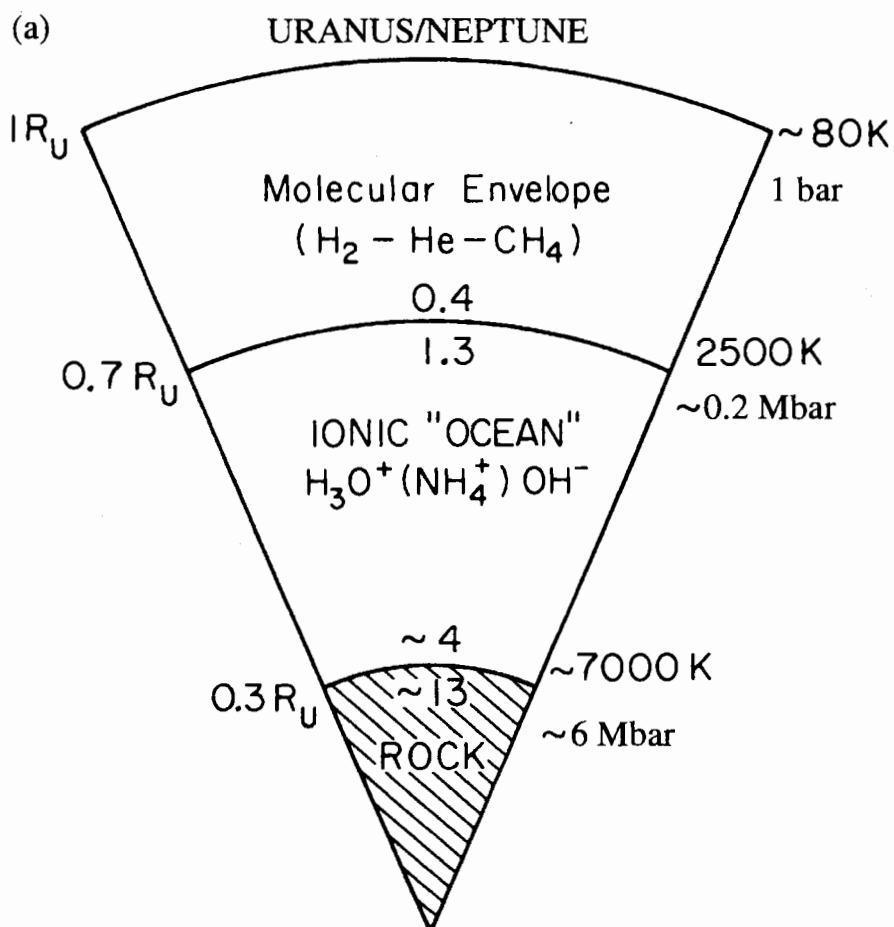


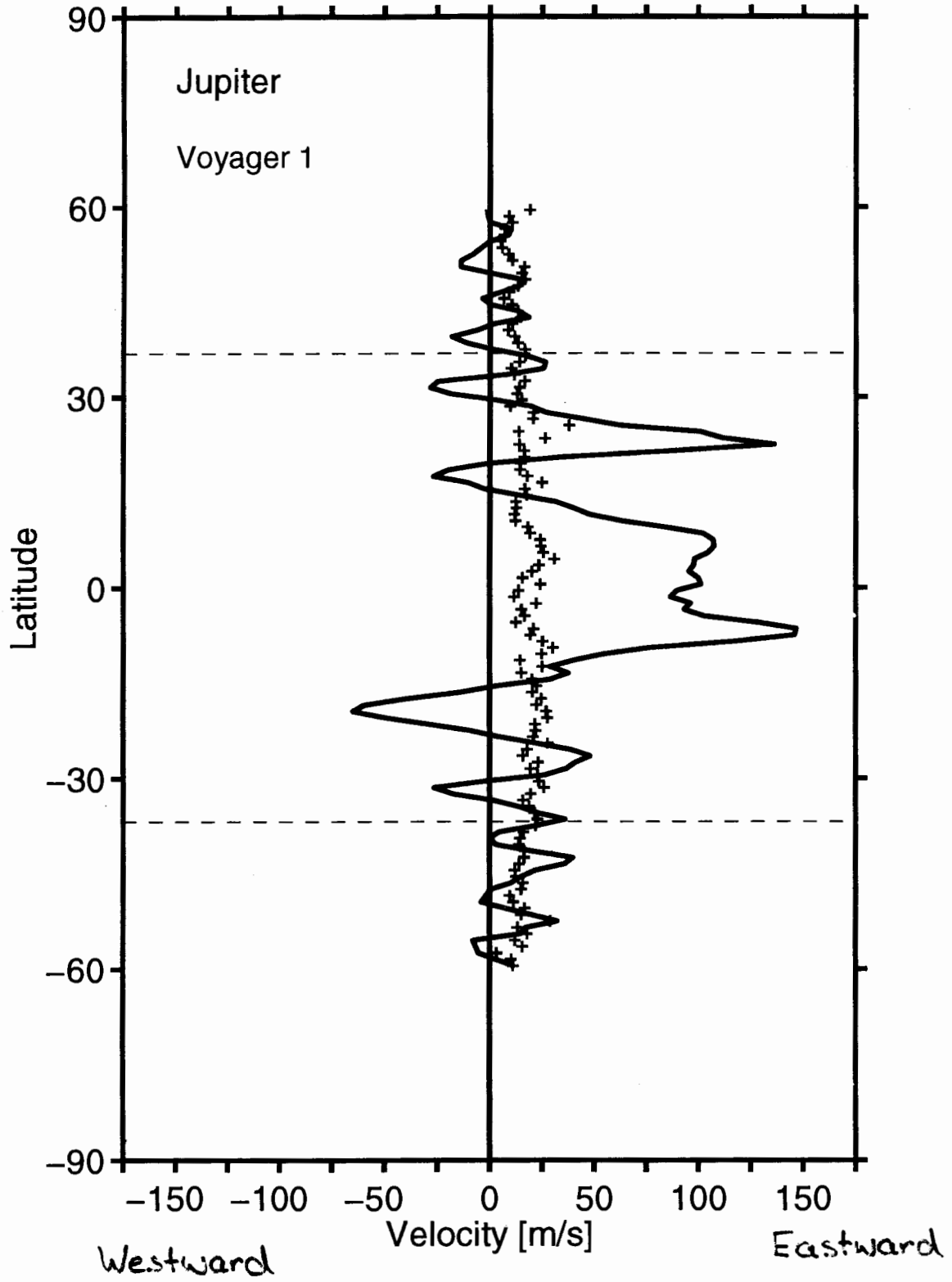


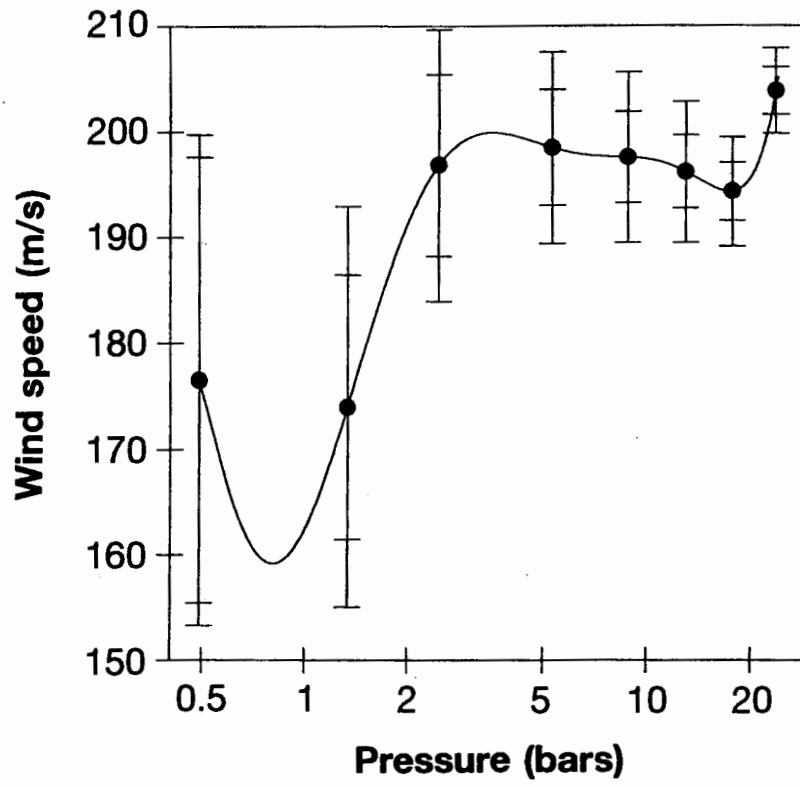


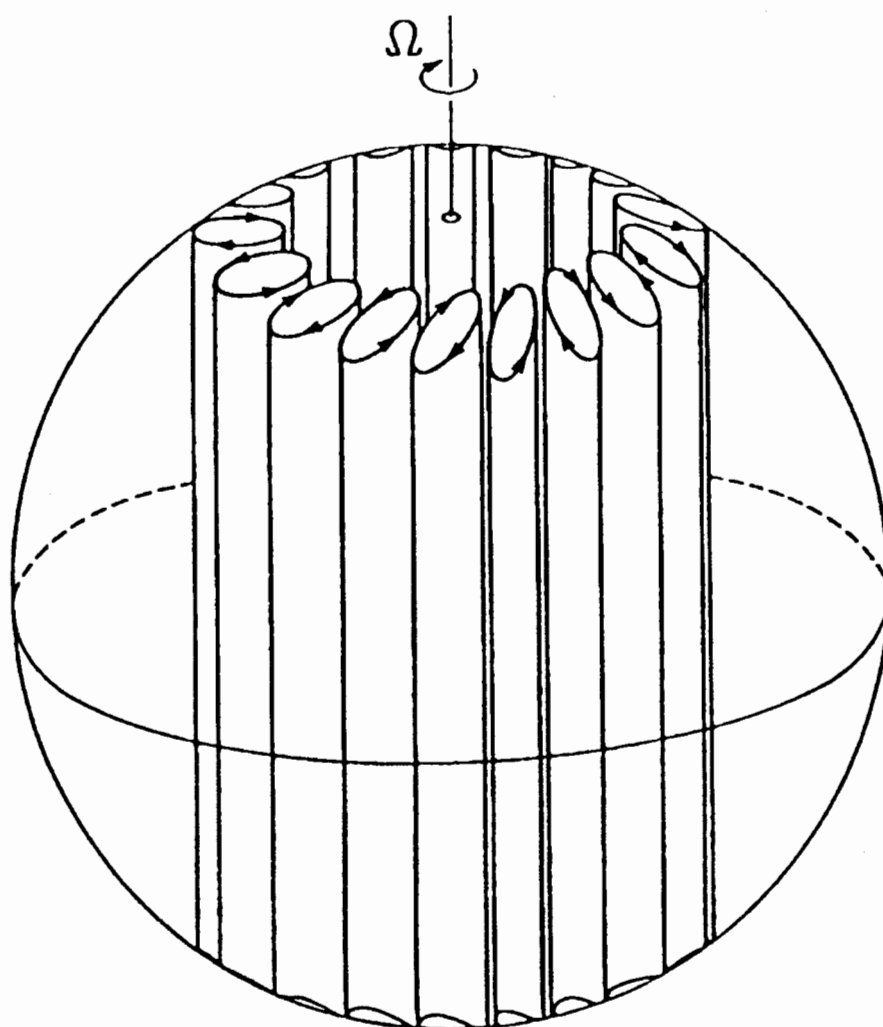
Properties of Uranus and Neptune

	Uranus	Neptune
Radius (equatorial)	25400 km	24600 km
Flattening	1/44	1/58
Mass / Earth mass	14.5	17.1
Mean density	1.32 g/cm ³	1.64 g/cm ³
Rotation period	17.2 h	16.1 h
Equatorial gravity	8.7 m/s ²	11 m/s ²
Surface temperature	53 K	52 K
Emitted/absorbed power	1.06	2.6
Atmospheric composition		
H ₂	0.85 ?	0.85 ?
He	0.15 ?	0.15 ?
H ₂ O	0.002 ?	0.002 ?
CH ₄	0.024	0.035
NH ₃	?	?









Reynolds stresses

Split velocity into mean flow U and eddy component u

$$\mathbf{v} = \mathbf{U} + \mathbf{u}$$

when components of u are **correlated** they transfer momentum to the large scale flow

cylindrical coordinates s, ϕ ; average on cylinder $\langle \rangle$; surface of cylinder S

Torque on cylinder $sS \langle u_s u_\phi \rangle$

