

Japan sets sail on maiden Venus mission

In a first for the country's space agency, Japan is sending two spacecraft to Earth's nearest planetary neighbour

Akatsuki

(Venus Climate Orbiter)

Two-year mission to resolve mysteries of Venusian atmosphere. Cameras will probe dense clouds of sulphuric acid – which “super-rotate” 60 times faster than planet

VENUS

Atmosphere:
Over 95% CO₂

Average surface
temperature:
460°C

LAUNCH VEHICLE
H-IIA rocket launches
both spacecraft

IKAROS

Technology demonstration mission launched in direction of Venus. Will attempt to become first spacecraft to use solar sails in deep space

20m-wide sail unfurls
in space using force of
craft's rotation. Thickness
less than single
human hair

“Thin-film” solar cells
generate electricity

Rocket
height
53m

Craft propelled by momentum of photons (light) from sun bouncing off tiny mirrors coating sail. In theory, speeds of 100km/sec could be achieved in six months

Sources: JAXA, Nature