



Fig. 1 Moon Phase Angle

Moon Phase Angle ψ

xy -axes = fixed direction but
moving frame centered on Earth

$x'y'$ -axes = moving 'noon' frame
centered on Earth (always
points at Sun)

$x''y''$ -axes = fixed frame of Sun

ψ = moon phase angle =
 $\pi/2 + (\phi - \theta)$