

Vatican Alignments



Location of the obelisk: $41^{\circ} 54' 9''$ North, $12^{\circ} 27' 27''$ East

Solstices for Rome

Measured by taking altitude of the Sun = 0 degrees

Summer solstice sunrise azimuth = $56^{\circ} 28'$

Summer solstice sunset azimuth = $303^{\circ} 30'$

Winter solstice sunrise azimuth = $123^{\circ} 31'$

Winter solstice sunset azimuth = $236^{\circ} 28'$

Measured by taking altitude of the Sun = 2 degrees (just cleared the horizon)

Summer solstice sunrise azimuth = $58^{\circ} 45'$

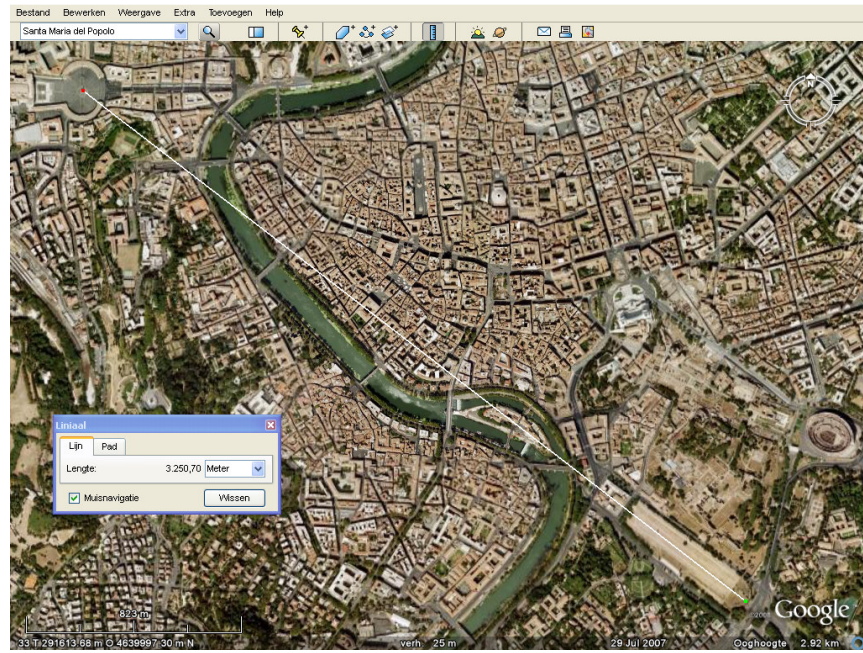
Summer solstice sunset azimuth = $301^{\circ} 14'$

Winter solstice sunrise azimuth = $125^{\circ} 53'$

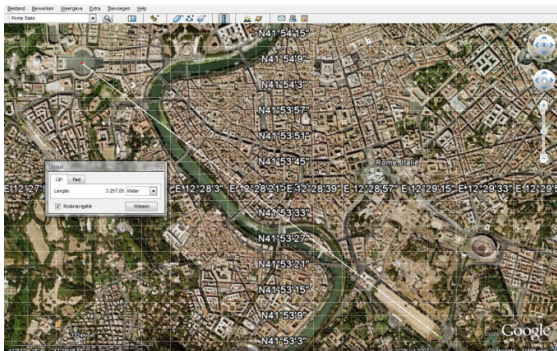
Winter solstice sunset azimuth = $234^{\circ} 6'$

1) Calculation of the azimuth of Circus Maximus

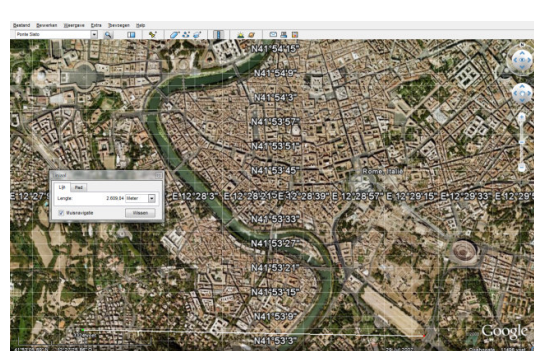
A first visual check on Google Earth reveals that Maximus Circus aligns with the obelisk at St Peter's Square, see picture below.



Circus Maximus aligns perfectly with the obelisk at St Peter's square.



Distance = 3257 meters



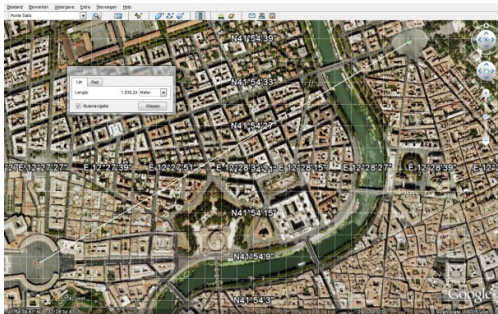
Longitudinal distance = 2600 meters

$$\text{Azimuth} = 90 + \arccos (2600 / 3257) = 127^{\circ} 2'$$

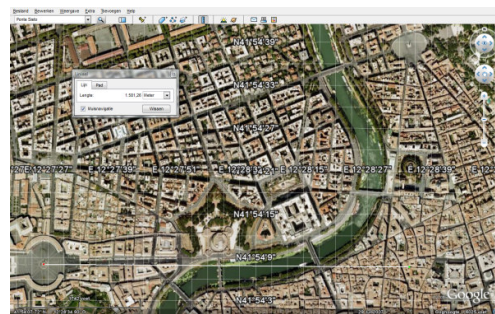
CONCLUSION : Circus Maximus aligns with the winter solstice sun.

2) Calculation of the azimuth of Piazza del Popolo

In this section the azimuth of the obelisk at the Piazza del Popolo is calculated as viewed from the piazza of the Vatican. (obelisk)



Distance between the obelisks = 1839 meters



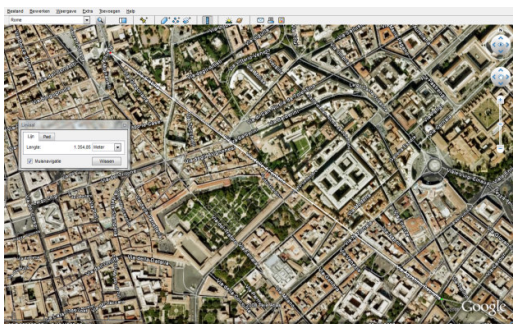
Longitudinal distance = 1581 meters

Azimuth = $90 - \arccos(1581 / 1839) = 59^\circ 17'$

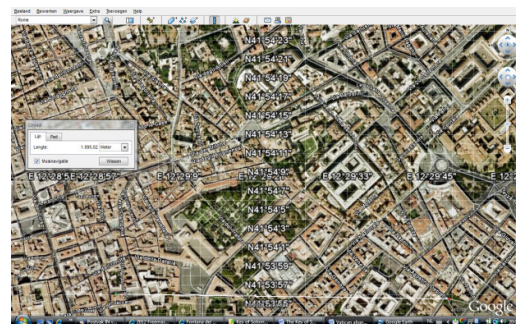
CONCLUSION : The obelisk at St Peter's Square and the obelisk at Piazza del Popolo align with the summer solstice sunrise.

3) Calculation of the azimuth of the Via delle 4 Fontane

The Via della 4 Fontane actually extends into Via Sistina in north western direction and into Via Agostino Depretis. Via Sistina end is Piazza di Spagna while Via Agostino Depretis ends in Piazza dell Esquillino. These three streets together form one big road of which the azimuth direction is calculated.



Length of the 'Via delle 4 Fontane' = 1355 meters

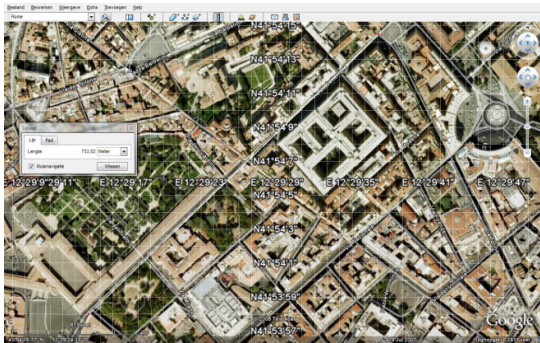


Longitudinal length = 1095 meters

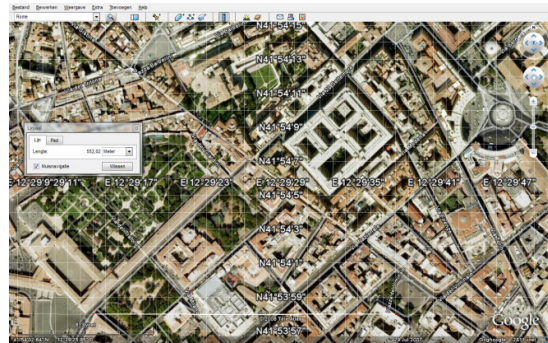
Azimuth = $\arccos(1095/1355) + 90 = 126^\circ 5'$

CONCLUSION : The Via della 4 Fontana is perfectly aligned to the winter solstice sunrise for Rome!

4) Calculation of the Via 20 Settembre



Length = 733 meters



Longitudinal length = 552 meters

Azimuth = $90 - \arccos(552 / 733) = 48^\circ 51'$

CONCLUSION : The Via 20 Settembre is NOT aligned to the summer solstice

Tools

Measurements were taking using:

- Google Earth 4.3.7284.3916 (beta)
- Stellarium Software release 0.9.1