Calcolo DOP di una Catena Loran

Lampedusa

Sellia Marina

Tripoli

Golfo Napoli

$$\varphi_M = 35.509 \ \lambda_M = 12.593$$

$$\varphi_X = 38.912 \ \lambda_X = 16.741$$

$$\varphi_Y = 32.839 \ \lambda_Y = 13.264$$

$$\varphi_s = 40.578 \ \lambda_s = 14.389$$

Catena1

Calcolo DOP di una Catena Loran

Lampedusa

Sellia Marina

Olbia

Golfo Napoli

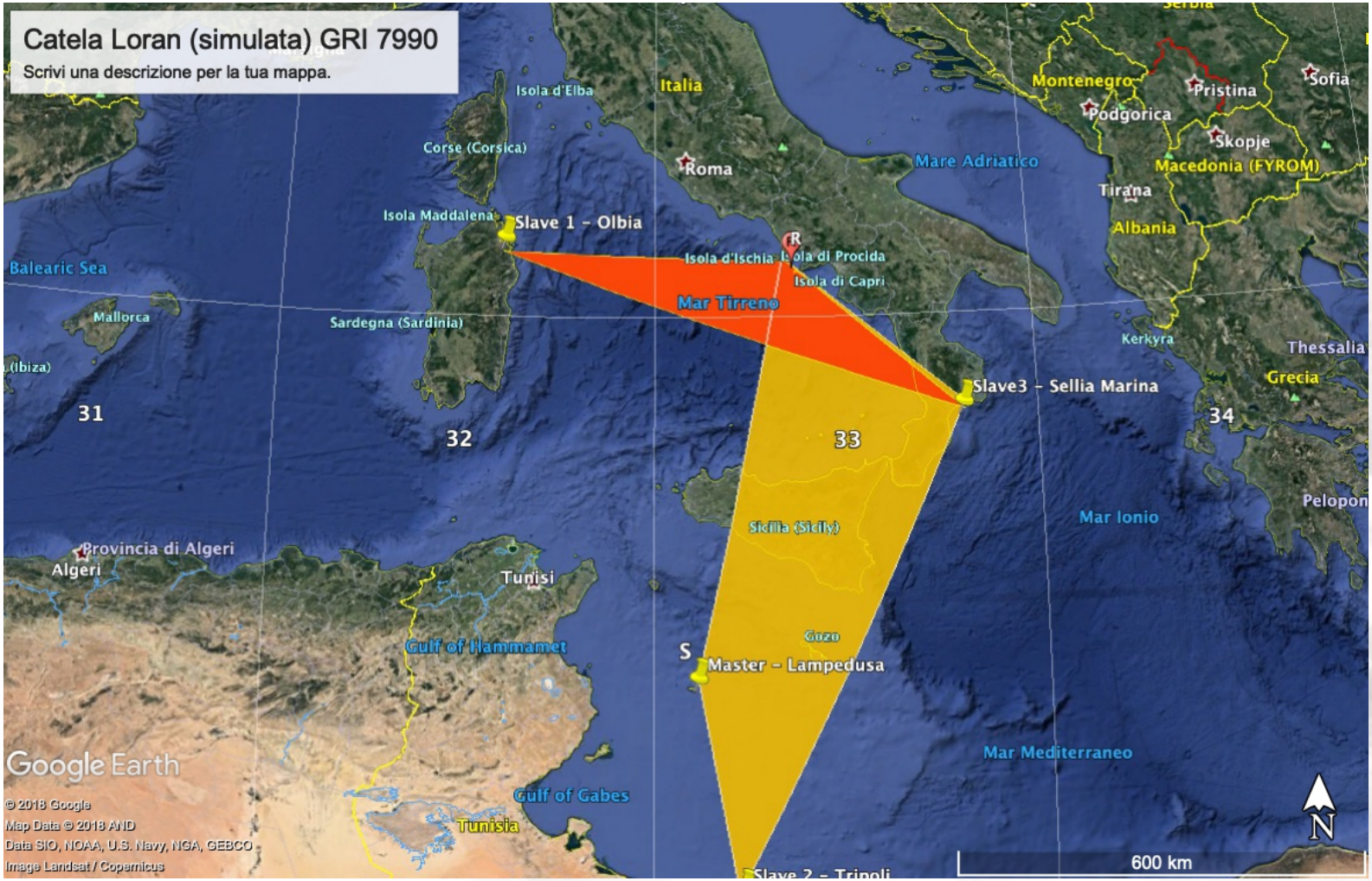
$$\varphi_M = 35.509 \ \lambda_M = 12.593$$

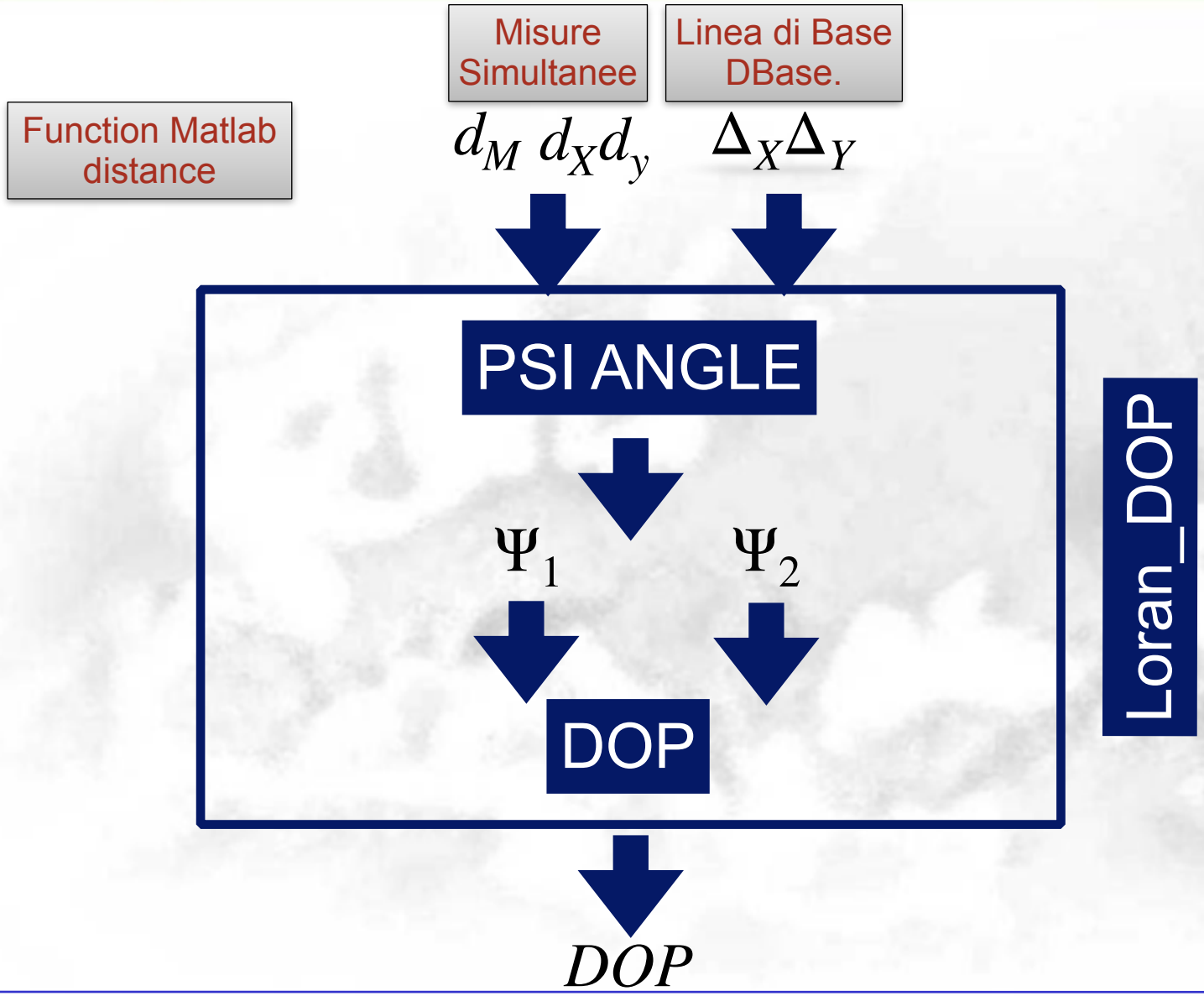
$$\varphi_X = 38.912 \ \lambda_X = 16.741$$

$$\varphi_Y = 40.998 \ \lambda_Y = 9.618$$

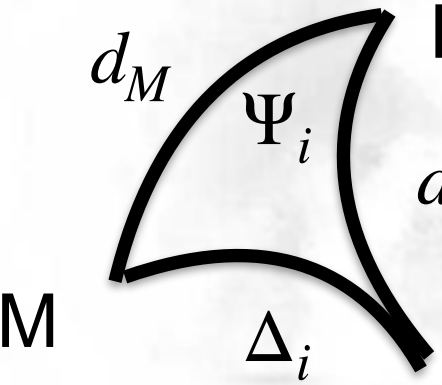
$$\varphi_s = 40.578 \ \lambda_s = 14.389$$

Catena2


Catela Loran (simulata) GRI 7990
Scrivi una descrizione per la tua mappa.
Isola d'Elba
Italia
Corse (Corsica)
Roma
Mare Adriatico
Montenegro
Pristina
Sofia
Podgorica
Skopje
Macedonia (FYROM)
Tirana
Albania
Isola Maddalena
Slave 1 - Olbia
Isola d'Ischia
Isola di Procida
Isola di Capri
Balearic Sea
Mar Tirreno
Mallorca
Sardegna (Sardinia)
Kerkyra
Thessalia
Grecia
(Ibiza)
Slave3 - Sellia Marina
31
32
33
34
Mar Ionio
Pelopon
Sicilia (Sicily)
Provincia di Algeri
Algeri
Tunisi
Gozo
Gulf of Hammamet
Master - Lampedusa
Mar Mediterraneo
Gulf of Gabes
Tunisia
Google Earth
© 2018 Google
Map Data © 2018 AND
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
600 km
N


Misure Simultanee
Linea di Base DBase.
Function Matlab distance
$d_M\ d_X d_y$
$\Delta_X \Delta_Y$
PSI ANGLE
Ψ_1
Ψ_2
DOP
Loran_DOP
DOP

Calcolo DOP di una Catena Loran

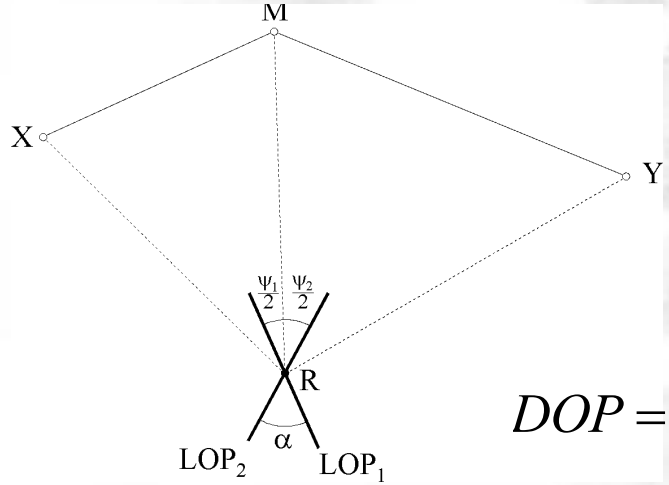


Teorema di Eulero

$$cos\left(\Delta_i\right) = \cos d_M \cos d_i + \sin d_M \sin d_i \cos \Psi_i$$

$$\Psi_i = \arccos[(\cos \Delta_i - \cos(d_M)cos(d_i))/sind_M sind_i]$$

Calcolo DOP di una Catena Loran



$$DOP = \frac{1}{2\,\mathrm{sen}\,\frac{\psi_1+\psi_2}{2}}\sqrt{\frac{1}{\mathrm{sen}^2\,\frac{\psi_1}{2}}+\frac{1}{\mathrm{sen}^2\,\frac{\psi_2}{2}}+\frac{2\cos\frac{\psi_1+\psi_2}{2}}{\mathrm{sen}\,\frac{\psi_1}{2}\,\mathrm{sen}\,\frac{\psi_2}{2}}}$$

Bibliografia

Cap. 4 di “Sistemi di Navigazione Aerea a Lungo Raggio”, V. Nastro – G. Messina, Hoepli, 2003