Esercizio 4

Singapore 809 End = 8h

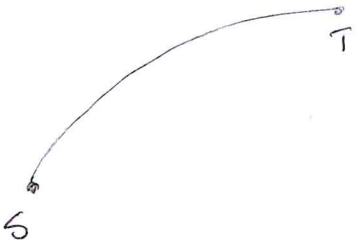
DECOLLO/ATT.

TOKYO 35°46'N 140°23'E

SINGAPORE 1°22'N 103°59'E

$G_{so} = 425$ kts

$G_{sh} = 465$ kts



PNR COORDINATE

① DISTANZA TOKYO/SINGAPORE (EULERO)

$\cos D_o = \text{sen}\varphi_T \text{sen}\varphi_S + \cos\varphi_T \cos\varphi_S \cos\Delta\lambda_{T/S} = 2890,54$ NM $(48°\,0'\,32'')$

$\Delta\lambda_{T/S} = 36°\,24'$

② DISTANZA TOKYO/PNR

P_{NR} (FT) $= E \cdot \frac{G_{sh}}{G_{so}+G_{sh}} = 4^h\,10^m\,47^s$

$PNR_{DIST} = G_{so} \cdot PNR_{FT} = 1776,4$ NM $(29°\,36'\,24'')$

③ CALCOLO φ_{PNR} (EULERO)

$\text{sen}\varphi_{PNR} = \cos D_o \,\text{sen}\varphi_A + \text{sen}D_o \cos\varphi_A \cos R_1 = 15°\,24'\,5,24''\,N$ (233)

$R_1 = \tan^{-1}\left(\frac{\text{sen}\Delta\lambda_{T/S}}{\tan\varphi_B \cos\varphi_A - \text{sen}\varphi_A \cos\Delta\lambda_{T/S}}\right) = -52,7595\,W$

$TC_1 = 232,759$ (3° quad)

- CONTROPROVA CALCOLANDO DA SINGAPORE

$R_{1/T} = 40°\,15'\,6''$

$DIST_{SING.PNR} = D_{T/S} - PNR_{DIST} = 1114,14$ NM $(18°\,34'\,8'')$ =

$\text{Sen}\varphi_{PNR} = 15°\,24'\,5''\,N$ ✓

(4) Calcolo di λ_{PUR} (regola dei Seni)

~~Sen λ : Sen (~~

Sen λ : Cos φ_{PUR} = Sen $\Delta\lambda_{A/PUR}$: Sen Do

$$\text{Sen } \Delta\lambda_{S/PUR} = \frac{\text{Sen } 18°34'8'' \cdot \text{Sen } 40°15'6}{\text{Cos } 15°24'5''} = 12°19'24''$$

$$\lambda_{PUR} = \lambda_{SING} + \Delta\lambda = 103°59' + 12°19'24'' = 116°18'23'' E$$