31310 Linear Control Design 2

Compulsory Assignment 2015 : Loudspeaker control

by

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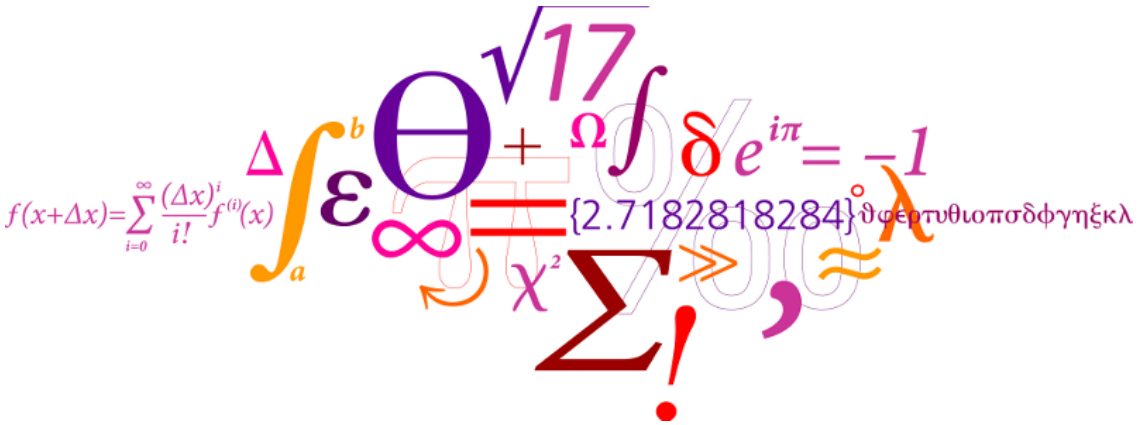

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0.1 Problem 1

First of all, the irradiance F of the light falling on the surface of Mars can be calculated as following : Conservation of energy :

$$4\pi R_{\odot}^2 F_{\odot} = 4\pi R^2 F \tag{1}$$

with

$R_{\odot} = 6,956.10^5\ m$: solar radius
$F_{\odot} = 6,45.10^7\ W.m^{-2}$: energy flow of the surface of the sun
$R = 2,27936.10^11\ m$: distance Mars-Sun

$$F = F_{\odot}\left(\frac{R_{\odot}}{R}\right)^2 = 589\ W/m^2 \tag{2}$$

References