⊞—iplot solving

⊞—plot

$D := 18\ in \qquad s := 3.5 \cdot D$

$$\eta(Rows, Cols) := 1 - \frac{\operatorname{atan}\left(\frac{D}{s}\right)}{90\ deg} \cdot \left(\frac{(Cols - 1) \cdot Rows + (Rows - 1) \cdot Cols}{Rows \cdot Cols} \right)$$

$N_{rows} := 3 \qquad N_{cols} := 3$

$\eta(N_{rows}, N_{cols}) = 0.76$

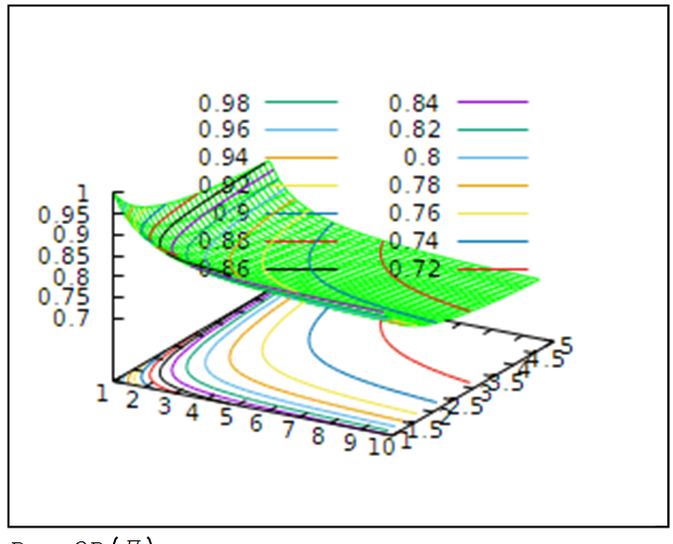
Using maxima

$\nu := 16$ Number of contour levels

$$\Pi := \begin{cases} color = green \\ contour\_levels = \nu \\ contour = both \\ surface\_hide = true \\ explicit(\eta(r, c), r, 1, 10, c, 1, 5) \end{cases}$$

Maxima Plot

The Maxima function is contour_plot, but needs to open a gnuplot window.



Draw3D(Π)

Using solve

Levels $\lambda_i := 0.72$ $\lambda_e := 0.98$ $n := [1..\nu]$

$$\lambda_n := \lambda_i + (\lambda_e - \lambda_i) \cdot \frac{n - 1}{\nu - 1}$$

Box domain $B := \begin{bmatrix} 1 & 10 \\ 1 & 5 \end{bmatrix}$ $N := \begin{bmatrix} 20 \\ 20 \end{bmatrix}$

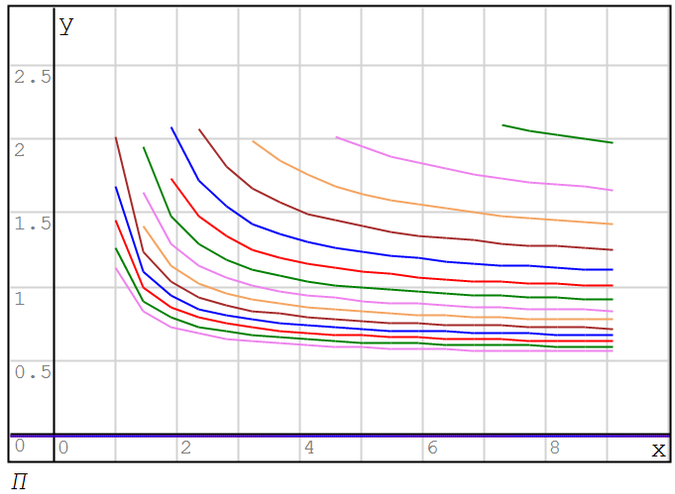
$r := xd(B_{1\,1}, B_{1\,2}, N_1)$

$c := xd(B_{2\,1}, B_{2\,2}, N_2)$

$$\Pi := \begin{vmatrix} M := 0 \\ M_n := IPlotSol(\eta(r\#, c\#), r, c, \lambda_n) \\ mat2sys_1(M) \end{vmatrix}$$

Contour levels solving for X or for Y.

This is what you try to do, Carlos. Check the code at the file start. Notice that this method can't find points upper to Col=2.5



Π

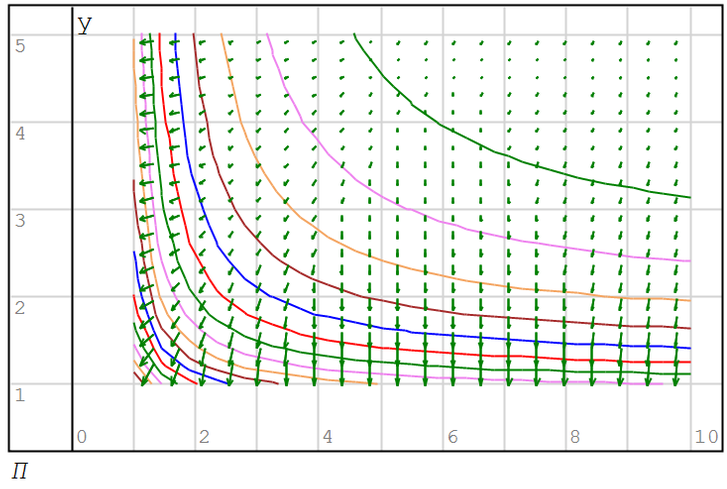
Using iplot & vfield routines

Scale function $sf(t) := t^{0.7}$

$$\begin{cases} g\eta(R, C) := \left[\frac{d}{d R} \eta(R, C) \ \frac{d}{d C} \eta(R, C) \right]^T \\ \Pi := \begin{cases} "" \\ "" \\ pVField(g\eta(R, C), B, N, [1\ 1], sf(t)) \\ pIPlot(\eta(R, C), B, N, \lambda) \end{cases} \end{cases}$$

Implicit plot from a mathcad routine by uni.

Slowest but pure SMath code, without plugins.



Π

Alvaro