For Maple notation $arctan(u) := \operatorname{atan}(u)$ $\_C1 := C$

Maple differential equation solver $ode := \frac{d}{dx} y(x) - \frac{y(x) - x}{y(x) + x}$ $dsol := \operatorname{maple}(lhs(dsolve(ode, y(x))))$

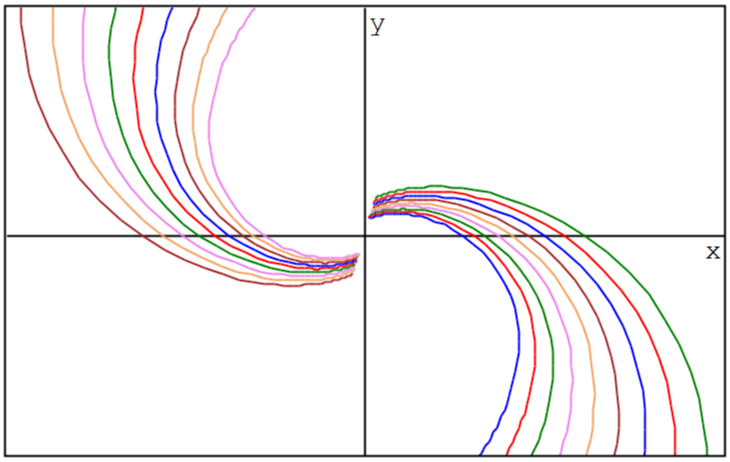
Parametric solution For an homogeneus equation: $y(x) := u \cdot x$

$$x(u, C) := e^{\operatorname{maple}(\operatorname{solve}(dsol, \ln(x)))}$$

$$y(u, C) := u \cdot x(u, C)$$

Discretizing for plot:

$$\left[Co := 0.1 \cdot [-4..4] \quad n_C := \operatorname{rows}(Co) \right]$$
$$\left[U := [-3, -2.9..5] \quad n := [1..\operatorname{rows}(U)] \right]$$
$$\left[k := [1..n_C] \quad k_2 := k + n_C \right]$$
$$\left[X_{n\,k} := x(U_n, Co_k) \quad Y_{n\,k} := y(U_n, Co_k) \right]$$
$$\left[M_k := \operatorname{augment}(X_{n\,k}, Y_{n\,k}) \quad M_{k_2} := -M_{k_2 - n_C} \right]$$
$$\Pi := \operatorname{mat2sys}_1(M)$$



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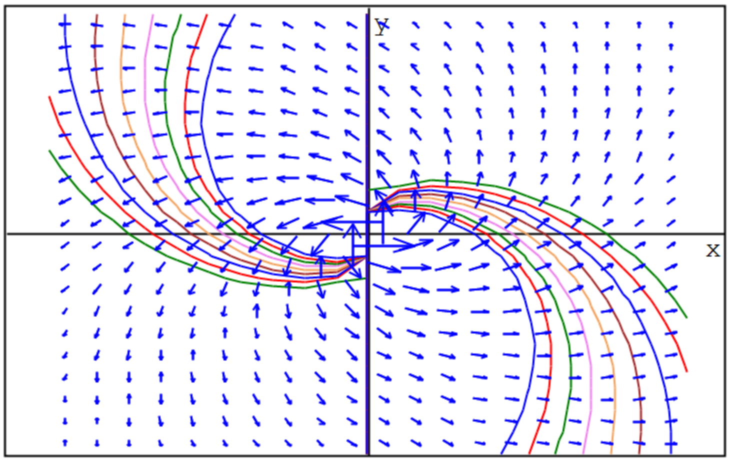
Implicit Solution $y(x) := y$ $f(x, y) := \operatorname{maple}(\operatorname{solve}(dsol, C))$

Can plot it using vfield library with pVField and pIPlot.

vfield

$$Grad(x, y) := \left[\frac{d}{dx} f(x, y) \quad \frac{d}{dy} f(x, y) \right]^T$$
$$\left[L := \begin{bmatrix} 1 \\ 1 \end{bmatrix} \quad sf(t) := t^{0.6} \quad B := \begin{bmatrix} -2 & 2 \\ -2 & 2 \end{bmatrix} \quad N := \begin{bmatrix} 20 \\ 20 \end{bmatrix} \right]$$
$$\Pi := \begin{cases} pVField(Grad(x, y), B, N, L, sf(t)) \\ pIPlot(f(x, y), B, N, Co) \end{cases}$$



Symbolic Solutions Showing Maple results, they are

Implicit

$$f(x, y) = \frac{\ln(y^2 + x^2) + 2 \cdot \operatorname{atan}\left(\frac{y}{x}\right)}{2}$$

Parametric

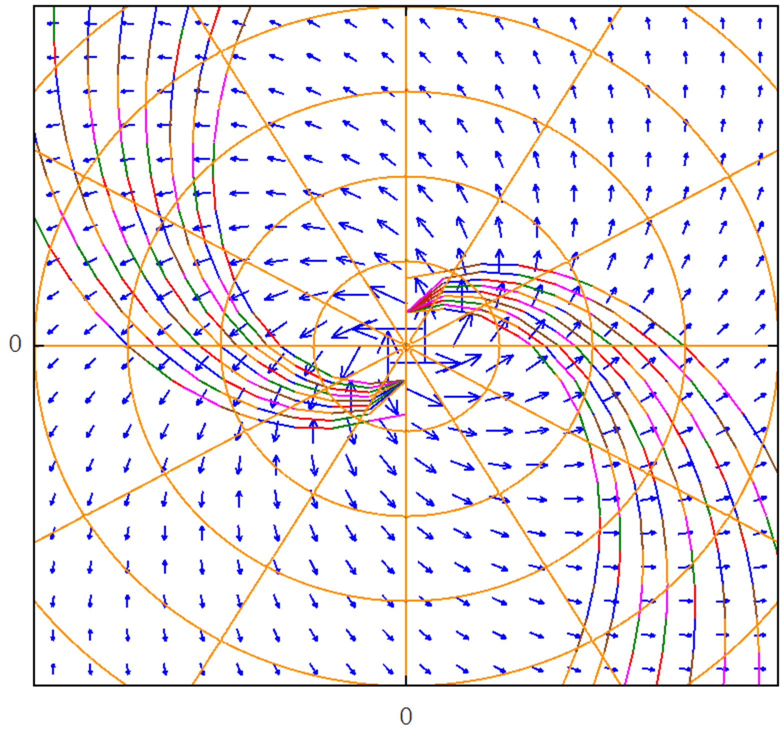
$$[x(u, C) \;\; y(u, C)] = \left[\frac{1}{e^{\frac{-2 \cdot C + \ln(1 + u^2) + 2 \cdot \operatorname{atan}(u)}{2}}} \quad \frac{u}{e^{\frac{-2 \cdot C + \ln(1 + u^2) + 2 \cdot \operatorname{atan}(u)}{2}}} \right]$$

Polar Plot

Can use Viacheslav's XY Plot, with this aux fnc:

$$\varphi(x, y) := \sin\left(\frac{\pi}{\Delta r} \cdot \sqrt{x^2 + y^2}\right) \cdot \sin\left(\frac{180°}{\Delta\varphi} \cdot \mathrm{atan}\left(\frac{y}{x}\right)\right)$$

$\Delta r := 0.5$
$\Delta\varphi := 30°$
$\Pi_3 := ""$
$\Pi_4 := \varphi(x, y)$



Alvaro