

PHC OX server

Edition : auto generated by oxgentexi on 28 March 2025

1 PHC

PHC pack ox ox_sm1_phc . phc.rr . phc \$(OpenXM_HOME)/lib/asir-contrib .

```
[255] phc.start();
0
[257] phc.phc([x^2+y^2-4,x*y-1]);
The detailed output is in the file tmp.output.*
The answer is in the variable Phc.
0
[260] Phc ;
[[[-0.517638,0],[-1.93185,0]],
[[1.93185,0],[0.517638,0]],
[[-1.93185,0],[-0.517638,0]],
[[0.517638,0],[1.93185,0]]]
[261]
```

Author of PHC pack: Jan Verschelde. <http://www2.math.uic.edu/~jan/download.html>
 1: Jan Verschelde, PHCpack: A general-purpose solver for polynomial systems by homotopy continuation". ACM Transaction on Mathematical Softwares, 25(2): 251-276, 1999.

2: Cox, D., O'Shea, Little, J., Using Algebraic Geometry, Springer. Mixed volumes .

1.1

1.1.1 phc.start

```
phc.start()
:: Localhost ox_sm1_phc .
```

return

- Localhost ox_sm1_phc . ox_sm1_phc .
- Xm_noX =1 , ox_sm1_phc debug window .
- Phc_proc .

```
P = phc.start()
ox_launch, phc
```

1.1.2 phc.phc

```
phc.phc(s|proc=p)
:: PHC pack s .
```

return

p

s

- *S* PHC pack . PHC pack Jan Verschelde . www.mth.msu.edu/~jan . PHC pack , , black-box solver . black-box solver , . , PHC pack , .

- `PHC tmp.phc.out.pid, tmp.input.*, tmp.output.* . pid ox_sm1_phc . tmp.output.* PHC pack .`
- `length(s) .`

Algorithm: Jan Verschelde, PHCpack: A general-purpose solver for polynomial systems by homotopy continuation". ACM Transaction on Mathematical Softwares, 25(2): 251-276, 1999.

```
[232] P = phc.start();
0
[233] phc.phc([x^2+y^2-4,x*y-1]|proc=P);
The detailed output is in the file tmp.output.*
The answer is in the variable Phc.
0
[234] Phc;
[[[-1.93185,0],[-0.517638,0]],
 [[0.517638,0],[1.93185,0]],
 [[-0.517638,0],[-1.93185,0]],
 [[1.93185,0],[0.517638,0]]]

[x=[real, imaginary], y=[real,imaginary]], the first solution
[x=[real, imaginary], y=[real,imaginary]], the second solution
...

ox_launch, phc.start, $(OpenXM_HOME)/bin/lin_phcv2(original PHC pack
binary for linux)
```

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(Index is nonexistent)

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